AMERICAN GAS ASSOCIATION

Monthly

Y-AUGUST
1954

INDUSTRIAL · COMMERCIAL · RESIDENTIAL · GAS

Everywhere, Everyday . . . Gas is indispensable

The watchword in today's budget is economy . . . and one of the most economical items in everyone's budget is Gas. It's also one of the most important . . . Gas gives an unexcelled performance of speed and dependability. In your home, business, shop, or factory, Gas plays a vast number of significant roles. On production lines, in hotels and restaurants, and in residential use, Gas is a vital fuel.

American Gas Association

Valves on Illinois bank at Mississippi River crossing of Texas Illinois Natural Gas Pipeline Company transmission line

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PREOCCUPATION with competitive trends of gas appliances has its own side effects. Complacency is sometimes replaced by jitters. Some already see the gas range "headed for the same destiny as gas lighting." . . . Recommended reading for these premature prophets of doom is the story on page 15. Not only do the families of Chicago at present overwhelmingly use gas for cooking, but The Peoples Gas Light and Coke Company intends through an aggressive and far-sighted program to keep them wanting to use gas. It's an example of how intelligent use of the Gas Industry Development Program can reverse unfavorable trends in public thinking. . . . More ammunition for another competitive front is in "Residential Heating—Oil vs. Gas" (page 19). We are all acquainted with the advantages of gas for house heating in terms of convenience and cleanliness. Now a field survey under actual winter and summer conditions in Westchester County, N. Y., finds the relation between the two fuels in terms of efficiency. Its publication fills an acknowledged need for our utilization people and the information should be at the finger tips of everyone concerned with house heating. . . . Our current Action City report is from Savannah. You'll find it on page 17.

JAMES M. BEALL
DIRECTOR, PUBLIC INFORMATION

VAUGHAN O'BRIEN
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CONTENTS FOR JULY-AUGUST 1954

FEATURES

STRAWS IN THE WIND 2
A. G. A. NOMINATES FOR 1954-1955 4
PLAN 1954 ANNUAL CONVENTION 7
MORE RESEARCH URGED AS INDUSTRY SPUR 8
UTILITIES RIDE THE AIRWAVES—by J. E. Keller and T. G. Humphreys 10
GLORIFYING GAS IN THE HOME 12
HOW PEOPLES BUILDS ITS COOKING LOAD 15
SAVANNAH—"ACTION" CITY! 17
RATE CASE PREPARATION (Book review by C. Maynard Turner) . . 18
RESIDENTIAL HEATING—OIL VS. GAS—by Alf L. Carroll 19
GAS STARS IN "TIME" SUPPLEMENT 21
WANTED—MORE PUBLIC RELATIONS CATALYSTS 22
RKO FILM OFFERS TIE-IN PROMOTION—by H. D. "Pat" Nicholson . 24
"MRS. AMERICA" QUOTA OVER THE TOP 27
ONE MAN'S VIEW OF GAS INDUSTRY SAFETY (Interview) . . . 28

SECTIONS

COMPUTING DEPRECIATION RESERVES—by George T. Logan . . . 29
NEW PEP PROGRAM SLATED FOR FALL 32
CHEMICAL, PRODUCTION MEN CONFER 35
STIR SALES ENTHUSIASM AT NY-NJ 38

DEPARTMENTS

INDUSTRIAL RELATIONS ROUND-TABLE 14
INDUSTRY NEWS 41
HIGHLIGHTS OF FPC RATE AND CONSTRUCTION CASES 45
MANUFACTURERS ANNOUNCE NEW PRODUCTS AND PROMOTIONS 47
NEW A. G. A. PUBLICATIONS 47
PERSONAL AND OTHERWISE 48
OBITUARY 50
NEW A. G. A. MEMBERS 62
CONVENTION CALENDAR 63
PERSONNEL SERVICE 64

THE MONTHLY IS INDEXED BY THE INDUSTRIAL ARTS INDEX

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STRAWS in the wind

● *Designed to give you a panoramic*

WASHINGTON HEARS OF INDUSTRY CODE

An illuminating example of united inter-industry action took place in Washington last month. A House committee, conducting hearings on a bill that would empower FPC to prescribe safety standards for interstate natural gas companies, heard Fred Hough, Southern Counties Gas Company vice-president and spokesman for the gas industry, report on what the industry is doing.

At the conclusion of the hearing, the bill's sponsor, Congressman Heselton of Massachusetts, agreed with Mr. Hough that action on the bill should be deferred until the gas industry completes its own code.

Mr. Hough is Chairman of the 70 man Subcommittee No. 8, on Gas Transmission and Distribution Piping, of ASA Sectional Committee B31. Sponsored by American Society of Mechanical Engineers, and actively supported by A. G. A., the group has nearly completed setting up new standards for transmission and distribution systems.

As one feature of its work this group conducted an exhaustive study of all pipeline failures that have occurred since 1930, and is conducting research projects within the PAR Plan that include construction and intentional damaging of experimental pipelines in field tests.

The success of the group was attested by Carl T. Kallina, FPC Certificates Chief. "Personally," he said, "I think that this (code) is one of the greatest achievements that has ever come out of the natural gas industry. If you will just review the list of persons attached to Mr. Hough's statement you will appreciate the fact that no agency—not even the government, I think—could have gotten together such high-priced talent to do such a job as they have done here. It has been tremendous, and it has been educational to all of us."

TO VIEW A-BOMB EFFECTS

Federal Civil Defense Administration has invited the gas industry through A. G. A. to participate in the 1955 atomic weapons exercises to be held in Nevada next year. Atomic bomb effects on residential and commercial buildings will be studied. A committee to represent A. G. A. is being selected.

LOOK OUT FOR HOPE

Look for the familiar figure of Bob Hope to be seen in coming A. G. A. gas clothes dryer promotions. Negotiations to link the name and face of the popular comedian to gas appliances are reported to be near the dotted line.

TOP DRAWER TALENT

Talent and coincidence teamed up at the recent gas industry symposium conducted by Practising Law Institute through A. G. A. Phillips case decision broke on afternoon subject was to be discussed and top case participants were on hand. In attendance were four out of five FPC Commissioners and twenty representatives of municipal, state and federal regulatory bodies.

AUTOMATIC IGNITION

Mandatory automatic lighting of all range burners is included in suggested new domestic gas range approval requirements about to be circulated throughout industry for study. This move, in line with Action Program of GID, was recently voted by A. G. A. Subcommittee on Approval Requirements for Domestic Gas Ranges. Other suggested revisions cover seven major appliance and equipment categories.

HIGH ALTITUDE BAKING

Crackers and cookies baked in Denver plant of large bakery wouldn't taste the same as those baked in other localities, though identical formulas were used. Company brought problem to A. G. A. and was told the fault was in the dough. Four universities have researched high altitude baking and found that recipes must be varied.

NO MORE SCRAP

Cracked natural gas and iron ore, utilized through the Madaras process, are producing a sponge iron that has replaced scrap in a Monterey, Mexico, steel mill. This is the first time natural gas has been used commercially in this process.

NO LIMITS HERE

"National borders, state lines and franchise areas cannot immunize us from the effect of violations of public safety, however far removed," reports Anthony J. Demse, Milwaukee Gas Light Co., in explaining that the Wisconsin legislature had authorized the Public Service Commission to issue rules covering construction and operation of gas utility facilities in response to public opinion aroused by explosions in other parts of the country. Mr. Demse says, "The Association's Gas Safety Code Committee's action may be an answer to all

future successful relations between regulatory bodies and utilities. It arranged an informal meeting with the Commission to clarify misinterpretations and arrive at a general agreement. It is truly amazing the results which can be attained through a mutual understanding of interests and a free interchange of ideas and facts."

SAFETY DISPLAY

A display of source materials with special significance to gas utilities is being assembled for the A. G. A. Accident Prevention Committee conference in Hartford next September. On view will be practical and educational material from member companies and from other agencies.

GAS REFRIGERATION CONTEST

More than 70 utility companies, representing 7½ million domestic meters are participating in the current A. G. A.-Servel gas refrigeration sales campaign. Gas companies are competing in a contest which assigns a specific point value to each refrigerator. To qualify for awards, each company must achieve a certain number of points per 1,000 meters; then point values are doubled. Servel recently announced that sales of 1953 models will also earn points.

COMMUNICATIONS SUPPLEMENT

Because of the increasing importance of radio and microwave communications to the gas industry, the Operating Section will publish a monthly communications supplement to its newsletter. Contents: news from FCC, new techniques and equipment, and other developments in the field.

WIDENS "ACTION"

"It is our plan to continue this activity indefinitely in all our natural gas towns." That's the reaction of E. C. Deane, Central Electric & Gas Co., Lincoln, Neb., after a recent meeting of representatives from Action Demonstration cities in Abilene, Texas. Lincoln is one of the ten "Test Cities."

SAFETY TRY-OUT

A large member company may provide a proving ground for a safety training program being prepared by A. G. A. Accident Prevention Committee. Under plan, the program will be carried out involving more than 100 employees in three locations. Committee representatives will aid in presentation of course.

REVISED PIPING STANDARDS

National Fire Protection Association has issued a revised edition of Standards for the Installation of Gas Piping and Gas Appliances in Buildings, known as Pamphlet 54. The work, compiled under A. G. A. sponsorship, will also be available late this year as ASA Z-21.30 1955.

FHA STUDIES HEATING

Drawing keen interest from both utility and manufacturing people is the current study by FHA of requirements for house heating equipment. With final decisions still in the future, opinions are being sought from many gas industry people.

RANGE LONGEVITY

How long should a gas range last? This is a poser for multi-family housing authorities, for costs must be based on amortization. Some hold best policy is to write off ranges in ten years, not because they are worn out, but because parts replacements may not be available.

PORTABLE PROBE

Soil corrosion potentials may soon be determined by a portable field device. The Redox Probe, developed and patented several years ago by A. G. A., is now being adapted to this use through a PAR Plan research project.

SANITATION MEETINGS

A new activity in the public interest is reported by a member company conducting meetings on sanitation for restaurant operators under the sponsorship of a regional restaurant association. "Clean dishwashing" demonstrations by a representative of National Sanitation Foundation have attracted the attention of health officials. They urge other gas utilities to conduct similar meetings.

SMALL TUBE RESEARCH

The fundamentals of gas combustion in small round and elliptical tubes are actively being studied by A. G. A. Laboratories under a PAR Plan research project. Experimental work to date with stainless steel tubes of ¼, ½ and 1-inch diameters indicates possibility of similar tubes being used as heat transfer elements in commercial and industrial applications.

COOLER RANGES

Means to achieve cooler fronts on domestic gas ranges and to minimize discoloration from cooking vapors are reviewed in forthcoming A. G. A. Laboratories Report 1218. A study of prevention of high surface temperatures on and around oven and broiler doors was the subject of a PAR Plan research project.

HOME SERVICE WORKSHOP

More than 300 home service and sales personnel from gas companies all over the nation are expected to attend the Eighth Annual Home Service Workshop in Chicago early in 1955. Scene: Drake Hotel; time: January 24-26.

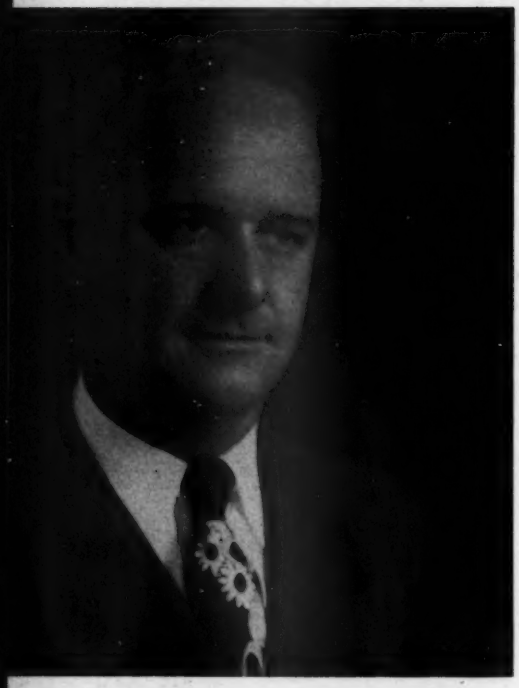
For vice-presidents ▶

DEAN H. MITCHELL

For directors

ERNEST R. ACKER

For president



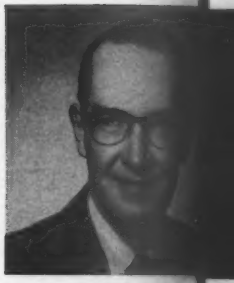
F. M. BANKS

C. H. ZACHRY

PAUL KAYSER

VINCENT T. MILES

For treasurer ▶



HENRY B. SARGENT

A.G.A. nominates for 1954-1955

DUDLEY B. W. BROWN

F. D. CAMPBELL

STUART COOPER

N. HENRY GELLERT

DONALD C. LUCE

H. N. MALLON

J. F. OATES, JR.

C. PRATT RATHER

E. CARL SORBY

W. T. STEVENSON

E. H. TOLLEFSON

G. E. WHITWELL

The task of selecting responsible industry leadership is again facing the membership of American Gas Association. The Association's General Nominating Committee has formed a slate of officers, directors and section chairman to represent production and distribution concerns, manufactured, natural and mixed gas companies, pipeline and utility holding companies as well as gas appliance manufacturers.

The complete slate will be voted upon by the membership at the 1954 A. G. A. Annual Convention, Atlantic City, October 11-13. In accordance with Section 2 of Article X of the A. G. A. Constitution and By-Laws, any 50 company members may make additional nominations for any elective office, and 50 individual members of any section may make additional nominations of sectional officers, by placing them in the hands of the Association's managing director not later than August 1.

The Nominating Committee recommends the election of a president, two vice-presidents, a treasurer, 15 directors, 11 section chairmen and vice-chairmen.

Elected at the 1953 A. G. A. Annual Convention, St. Louis, the General Nominating Committee consists of:

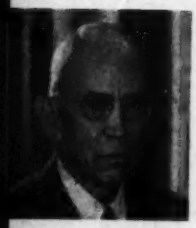
A. F. Bridge, president and general manager, Southern Counties Gas Co., Los Angeles (retired), *chairman;* N. B. Bertolette, president, The Hartford Gas Co., Hartford, Conn., *acting chairman;* Edward G. Boyer, manager, gas department, Philadelphia Electric Co.; J. J. Hedrick, president, Natural Gas Pipeline Company of America, Chicago; S. H. Hobson, president, Geo. D. Roper Corp., Rockford, Ill.; Chester L. May, vice-president, Lone Star Gas Co., Dallas; Robert W. Otto, president, Laclede Gas Co., St. Louis; Roy T. Richards, general superintendent, Arizona Public Service Co., Phoenix; A. H. Stack, president and general manager, The Tampa Gas Co., Tampa, Florida.

The following list of nominations is brought to the attention of the American Gas Association membership, in ac-

For chairmen

A. T. GARDNER
Accounting Section

W. LARRY SHOMAKER
General Management Section



RAY TROWBRIDGE
Industrial and Commercial Gas Section

W. H. DAVIDSON
Operating Section

W. H. KURDELSKI
Residential Gas Section

For vice-chairmen

E. R. EBERLE
Accounting Section

J. H. CARSON
General Management Section

L. E. BIEMILLER
Industrial and Commercial Gas Section

J. H. COLLINS
Operating Section

F. A. HOUGH
Operating Section

B. H. WITTMANN
Residential Gas Section

cordance with the provisions of the Association's Constitution and By-Laws:

For president—F. M. BANKS, president and general manager, Southern California Gas Co., Los Angeles, California.

For first vice-president—DEAN H. MITCHELL, president, Northern Indiana Public Service Co., Hammond, Indiana.

For second vice-president—C. H. ZACHRY, president, Southern Union Gas Co., Dallas, Texas.

For treasurer—VINCENT T. MILES, treasurer, Long Island Lighting Co., Mineola, New York.

EARL H. EACKER, president, Boston Consolidated Gas Co., Boston, Mass., is the Association's retiring president.

Newly nominated and re-nominated directors are:

ERNEST R. ACKER,* president, Central Hudson Gas & Electric Corp., Poughkeepsie, New York.

DUDLEY B. W. BROWN,* president, Milwaukee Gas Light Co., Milwaukee, Wisconsin.

F. D. CAMPBELL, president, New England Gas and Electric Association, Cambridge, Massachusetts.

STUART COOPER, president, Delaware Power & Light Co., Wilmington, Delaware.

N. HENRY GELLERT,* president, Seattle Gas Co., Seattle, Washington.

PAUL KAYSER,* president, El Paso Natural Gas Co., El Paso, Texas.

DONALD C. LUCE, president, Public Service Electric and Gas Co., Newark, New Jersey.

H. N. MALLON, president, Dresser Industries, Inc., Dallas, Texas.

JAMES F. OATES, JR.,* chairman and chief executive officer, The Peoples Gas Light and Coke Co., Chicago, Illinois.

C. P. RATHER, president, Southern Natural Gas Co., Birmingham, Alabama.

HENRY B. SARGENT, president and general manager, Arizona Public Service Co., Phoenix, Arizona.

E. CARL SORBY, vice-president, Geo. D. Roper Corp., Rockford, Illinois.

W. T. STEVENSON,* president, Texas Gas Transmission Corp., Owensboro, Kentucky.

E. H. TOLLEFSON, president, Hope Natural Gas Co., Clarksburg, West Virginia.

GEORGE E. WHITWELL,* vice-president in charge of sales, Philadelphia Electric Co., Philadelphia, Pennsylvania.

ACCOUNTING SECTION

For chairman:

A. T. GARDNER, vice-president and secretary, Delaware Power & Light Co., Wilmington, Delaware.

For vice-chairman:

E. R. EBERLE, assistant to general commercial manager, Public Service Electric and Gas Co., Newark, New Jersey.

* Renominated.

(Continued on page 61)

Plan 1954 annual convention

Authoritative speakers on many subjects of great interest to the entire gas industry are being scheduled for the thirty-sixth Annual Convention of the American Gas Association to be held October 11-13, at Atlantic City, N. J. The various Section programs are taking final form and outstanding events are being arranged for the General Sessions on each of the three mornings of the convention.

Members of the General Convention Committee, which is headed by Everett J. Boothby, president, Washington Gas Light Company, have expressed confidence that the coming convention will be one of the most successful in the history of A. G. A.

The Convention Entertainment Committee, with L. R. Quad, Public Service Electric and Gas Co., Newark, N. J., as chairman, met at A. G. A. Headquarters on June 25. The following executives are serving on this committee: R. R. Blackburn, Southern California Gas Co.; M. J. Harper, Rockwell Manufacturing Co.; Theodore H. Kendall, South Jersey Gas Co.; Robert C. LeMay, Selas Corporation of America; and Daniel E. Maloney, The East Ohio Gas Company. Other committee members are: Joseph T. McKay, New Orleans Public Service Inc.; L. T. Potter, Lone Star Gas Co.; John H. W. Roper, Washington Gas Light Co.; J. Gordon Ross, Rochester Gas & Electric Corp., and Howard T. Scranton, Transcontinental Gas Pipe Line Corporation.

Entertainment plans include the President's reception, entertainment and dance on Monday evening; a ladies' party on Tuesday afternoon and a program of excellent entertainment on Tuesday evening.

General Sessions will be held at the ballroom auditorium at 10:00 a.m. each morning. The reception and dance and the entertainment also will be staged at the auditorium.

The Operating Section will hold afternoon sessions Monday and Tuesday at Trimble Hall, Hotel Claridge, which has been designated as headquarters for the Operating Section. The program for the meetings will feature a demonstration on remote control of pipelines. A simulated pipeline system will be set up with an offstage control room to be viewed by use of closed-circuit television hook-up. Valves, meters and other equipment will be operated by remote control. Panel discussions on customer service, quality control and other pertinent topics will be included. Papers on off-shore drilling and safety codes will be presented. Officers will be elected and the Operating Section's Awards of Merit will be bestowed at these sessions.

E. J. Boothby, Washington, serving as chairman of 1954 General Convention Committee

Louis R. Quad, Newark, N. J., is heading this year's Convention Entertainment Committee

The Hotel Dennis has been designated as headquarters for the Residential Gas Section but the Section will hold its meeting in the ballroom of the auditorium at 2:00 p.m. Monday. Walter H. Kurdelski, Michigan Consolidated Gas Co., chairman of the Residential Gas Section, will preside. The program will feature a series of presentations devoted to promotion and sale of residential gas appliances.

The Accounting Section, with Paul E. Ewers, Michigan Consolidated Gas Co., as chairman, has arranged programs for meetings at the Viking Room, Haddon Hall, on Monday. The Chalfonte-Haddon Hall Hotels are headquarters for the Accounting Section. L. R. Quad, coordinator of the Customer Activities Group will preside at the Accounting Section meeting Monday afternoon. The Tuesday meeting will be a luncheon meeting at the Rutland Room, Haddon Hall. Arthur Skelton, The Peoples Gas Light and Coke Co., will preside at that meeting.

The Home Service Breakfast will be held Tuesday morning, October 12, in the American Room, Hotel Traymore. Mary E. Huck, The Ohio Fuel Gas Co., chairman of the Home Service Committee, will preside. The afternoon meeting of the Home Service Committee, featuring the annual round-table discussions and promotional highlights, will take place Tuesday afternoon at the St. Dennis Room, Hotel Dennis.

The General Management Section will have headquarters at the Chalfonte-

(Continued on page 55)

More research urged as industry spur

Doubled expenditures for gas industry research were urged by Sheldon Coleman (5th from left), GAMA president and guest speaker at Thursday luncheon. G. M. Douglas (6th from left), Union Gas of Canada, introduced speakers

Speakers at opening conference session included (left to right) D... Weast, Case Institute; R. J. McCrory, Battelle Memorial Institute; ... Leon Ourusoff, Washington Gas Light. K. T. Davis, Bryant Heater, ...

a PAR activity More intensive research in laboratories and prompt industry response to its findings can bring about a renaissance in the markets for domestic gas.

This keynote sounded by Leon Ourusoff, Washington Gas Light Co., opened the ninth annual Research and Utilization Conference held in Cleveland, June 2-3, under the auspices of the American Gas Association Committee on Domestic Gas Research and the A. G. A. Utilization Bureau.

Increasing awareness of the importance to marketing of research and utilization was reflected in the number of sales executives among the 400 delegates attending. Registration was of near recordbreaking proportion.

A highlight was the third showing of the experimental gas range sections developed by A. G. A. Laboratories. Like the conference itself, the demonstration was a PAR domestic research activity. The sections, consisting of top burners, oven and broiler, were displayed at the auditorium in the new south wing of the Laboratories.

The two-day program of reports, discussions and panels opened Wednesday morning at the Hotel Statler with Conference Chairman Keith T. Davis, Bryant Heater Div., Affiliated Gas Equipment, Inc., presiding. Mr. Ourusoff outlined the present competitive position of domestic gas appliances and spoke in detail on ranges and air conditioning.

In regard to cooking appliances, Mr. Ourusoff said that anything competition may offer against the inherent advantages of gas is "relatively inconsequential."

"Our fundamental problem, therefore, is not that of matching the few and minor advantages of competitive ranges but that of incorporating to best advantage in *practice* the many and basic advantages of gas ranges."

Mr. Ourusoff blamed the lag between theory and practice in gas range design on a lackadaisical attitude by some sections of the industry and pointed to the experimental units developed at the Laboratories as a demonstration of "real flexibility, truly typical of gas." He said the cold range field test had brought the modern gas range nearer to complete automaticity and that the next step is to develop ranges that can be installed without preadjustment or readjustment.

The gas industry is not getting its share of the air conditioning load, Mr. Ourusoff said, and he presented a basic two-point program:

"1. Concentrated to the utmost on promotion of residential absorption units now available and maintain the highest possible degree of cooperation with the manufacturer who has expended much money and effort in developing the only unit presently available. Concurrently we must encourage in any form that may be appropriate, short-range research to bring about further improvement of absorption systems.

"2. Initiate without delay the long-range development of other applications of gas to air conditioning based on the

Hebrank, Univ. ; H. A. Eddins, de Gas; J. R. ner, Central Hud- were speakers

Roland Reynolds, tian-Morley; Wil Miners, N. J. Nat Frank Ryder, Stev Warner Corpor

Vandaveer, East C. G. Segeler, A.; and Ira Rap- Michigan Consol- view display

Between sessions: ford Pountney, A. Labs; H. Straub, of Ill., Ral Mu A. G. A. Headqua

findings derived from current studies and surveys. Such a program should have a time objective, and quite obviously must be backed with substantial funds."

Redoubled efforts and expenditures for research were also urged by Sheldon Coleman, president, The Coleman Co., and head of Gas Appliance Manufacturers Association. Guest speaker at the Thursday luncheon, Mr. Coleman said that the gas industry on a national average spends less than one cent of each profit dollar for research. He said that the proper figure should be at least two cents of each dollar.

Mr. Coleman stated that an expanded PAR Research Program would be the most fruitful means for utilities and pipelines to step up research but he suggested that under our competitive system manufacturers should conduct their own research for improved and new products.

Louis B. Seltzer, editor of the Cleveland *Press* and guest speaker at the Wednesday luncheon, urged the audience of engineers to devote their attentions to world affairs in order that the U.S. may lead the way to an era of "peace and sanity." He was introduced by William G. Rogers, president of The East Ohio Gas Company.

Present investigation under the PAR Research Program of gas air conditioning possibilities was reported on at the opening session by R. J. McCrory, Battelle Memorial Institute. Some of the air conditioning systems reconsidered during the survey, as well as some novel systems conceived during the investigation, show considerable promise of being adaptable to gas operation, Mr. McCrory said. Interest was aroused by the Philips air engine, a recent European development which uses an externally applied gas flame as an energy source.

Another paper given Wednesday morning by Dr. R. C. Weast, Case Institute of Technology, concerned corrosion of galvanized steel water heaters under present-day demands for hot water. Studies made revolved around variable conditions of high gas input, high hot water temperature ranges and greatly increased daily hot water demand.

Appliance uniformity was the subject of a four-man panel presided over by R. W. Ramsdell, The East Ohio Gas Company. The utility sales viewpoint, represented by J. J. McKearin, Laclede Gas Co., and that of utility service, presented by William Marshall, Minneapolis Gas Co., was that more uniformity would be desirable, especially in service operations, and to a lesser degree in conducting sales demonstrations. While not opposed to standardization of parts, A. F. Cassidy, Rheem Manufacturing Company general sales manager, said that too much stress on uniformity would curtail the development of special features by individual manufacturers to spur sales over similar types of appliances. William M. Day, Perfection Stove Co., speaking as an equipment designer, said that standardization of basic fundamentals would give the designer more freedom to go ahead on other aspects of appearance and convenience.

An innovation at the conference took

(Continued on page 56)

● *Our stake in industrial radio and microwave communica*

Utilities ride the airwaves

By JOSEPH E. KELLER
Special Representative, Central Committee on Radio Facilities, API

T. G. HUMPHREYS
A. G. A. Representative and Secretary, National Committee on Utilities Radio

The growth in industrial use of radio communications facilities has been one of the truly remarkable advances in the nation's recent history. Among the groups which have led the way in this development none has been more prominent than the natural gas and petroleum industries. Both of these industries have shown true pioneering spirit and energy in attacking the roadblocks in the path of effective industrial use of radio.

The leaders in the natural gas and petroleum industries' progressive march towards increased use of the airwaves have been the committees set up by the oil industry and the utilities industries to deal with radio problems. The Central Committee on Radio Facilities of the American Petroleum Institute and the National Committee for Utilities Radio are the representatives of these groups. Along with the Central Committee, much credit for the progress which has been made by petroleum radio users must also go to the National Petroleum Frequency Coordinating Association, which operates independently, but in cooperation with, the Central Committee.

There is an obvious relationship between petroleum and utilities operations and interests in the radio field as well as in their other aspects. For this reason, this article is being written to give our readers a basic idea of what these three groups are, how they operate, and what they seek to accomplish.

The NCUR

Late in 1942, the Federal Communications Commission, recognizing that it would be faced with a multitude of frequency allocation problems when the war ended, asked the radio manufacturers and users to organize an advisory group to be known as the Radio Technical

guarded by three industry groups—here's how they were formed and work

Planning Board. This board was organized in 1943 and consisted of various committees representing certain segments of the industry. Among these committees, Committee No. 4 of Panel 13 represented the utility radio users, Panel 13 covering broadly all land mobile service.

This committee continued for a number of years to serve the electric, gas, water and steam utilities and succeeded in obtaining a number of exclusive channels for utility radio licensees. It was responsible for the adoption by the FCC of operating rules which recognized the needs of utilities and made mobile radio the useful and versatile tool that it is today. There can be little doubt that the present widespread use of radio by all classes of power utilities is a direct result of the intensive and hard work of this early pioneering group. It should be noted that utilities' use of radio has been confined to emergencies falling in the category of the "special emergency" service prior to establishment of the "power" radio service in 1946.

The officers and members of Committee No. 4 recognized, quite early in their work, that it would be necessary, even with the substantial number of channels exclusively allocated for utility use, to have some orderly process for assigning frequencies to individual users in order to make full use of the available spectrum space. A committee was, therefore, appointed to study the matter and make recommendations.

This committee, headed by George Underhill of the Central Hudson Gas and Electric Company, reported some time later with a plan for geographic sharing of frequencies which considered long-distance transmission and other factors and minimized interference thus making it possible to assign a relatively large number of users in various parts of the country to the same frequency. This plan, which was to set the pattern for all mobile radio allocations, was then and is still known as the "Underhill Plan."

Committee No. 4 of Panel 13 was reorganized in 1948 as the NCUR and was to serve the interests, in all radio matters, of the so-called "power" utilities as distinguished from the Communications Common Carriers. Membership of NCUR is composed of representatives from various trade associations, including American Gas Association and delegates from the ten regional committees which, themselves, consist of representatives from utility radio users in the area served. Each region and sponsoring trade association is permitted one vote regardless of the number of delegates that may be present. Leadership of NCUR has come from all of the classifications of users with the exception of the water and steam industry. Chairmen have been connected with gas utilities, private electric companies and electric cooperatives.

Despite the diversity of interests of the membership, there has never been a serious case of disagreement and the final actions of NCUR have always resulted from unanimous approval by all the members. It has been well recognized that the problems associated with radio are common to all regardless of their area of service.

While there are sections of the country where the frequency allocation problem is acute it is safe to say that the mobile radio situation with regard to power utilities is generally satisfactory at the present time. NCUR, acting as liaison between the industry and the FCC, is the greatest single factor in maintaining and improving that condition.

More recently, NCUR has been faced with a new and complex problem arising out of the wide acceptance of microwave by the industry in general. This situation is different in a great many respects from that of mobile radio. There are no exclusive frequencies for any service so it is necessary to coordinate assignments between many diverse types of users. All microwave assignments are now classed as developmental although it is hoped that firm assignments may be made in the near future.

The present officers of NCUR are: chairman, Dale G. Schreiner, Woodbury County Rural Electric Cooperative, Moville, Iowa; vice-chairman, Robert W. Lewis, Boston Edison Co., Boston; secretary, Thomas G. Humphreys, Jr., Alabama Gas Corp., Birmingham, Alabama.

It would be impossible to discuss NCUR and its activities without recognizing the very fine services of some of its members who have contributed so generously to its success. Foremost among these are Russell V. Dondanville of the Commonwealth Edison Company of Chicago, Warren T. Bulla of the Natural Gas Pipeline Co., George H. Underhill who was mentioned earlier, Earle D. Glatzel of the Detroit Edison Company and John G. McKinley of the West Penn Power Company.

In the years ahead NCUR must grow in strength just as the investment which they protect so diligently grows in magnitude. To implement that growth, the support of all utility radio licensees is necessary. NCUR now commands the respect of the industry and the FCC where it is the only voice that speaks for all radio licensees under the classification "Power Radio Service." The gas industry has no better way to protect its tremendous investment in radio equipment than through full and unstinting support of this group of voluntary workers.

API's Central Committee

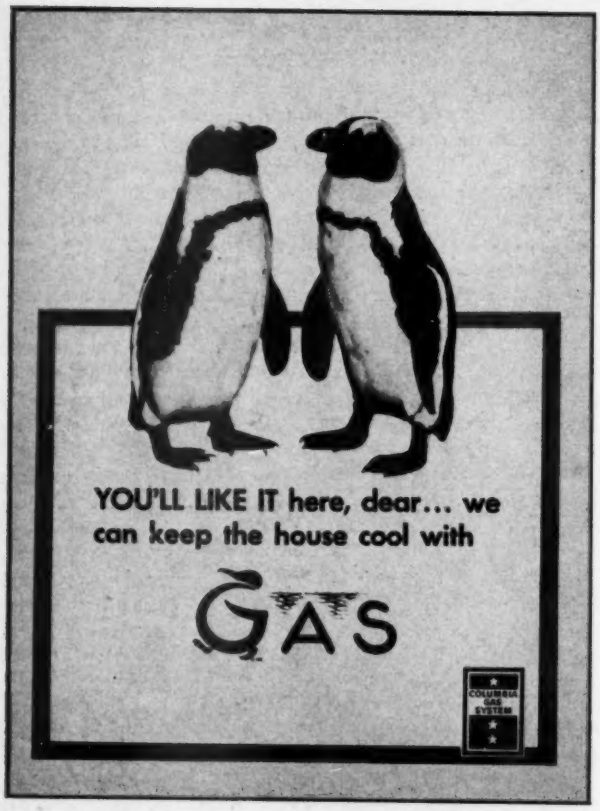
When the Radio Technical Planning Board was organized in 1943, its activity received the serious attention of members of the Petroleum Industry Electrical Association, an organization composed principally of communications superintendents of most of the major oil and pipeline companies in the Midwest and Southwest.

Because these men were vitally interested in all methods of communications, particularly within and for the oil industry, they started a movement within the association to become affiliated with the board in order to further the petroleum industry's interest in obtaining usable frequencies for its use in day-to-day operations.

As a result of their efforts, the association became a contributing sponsor in the Radio Technical Planning Board, and the PIEA president appointed a committee to formulate the oil industry's radio requirements. This committee became known as Committee No. 9, Provisional and Special Emergency Oil Industry Services, Panel 13, Radio Technical Planning Board. It prepared a very comprehensive statement outlining in minute detail the petroleum industry's radio requirements.

After the board went out of existence

(Continued on page 57)

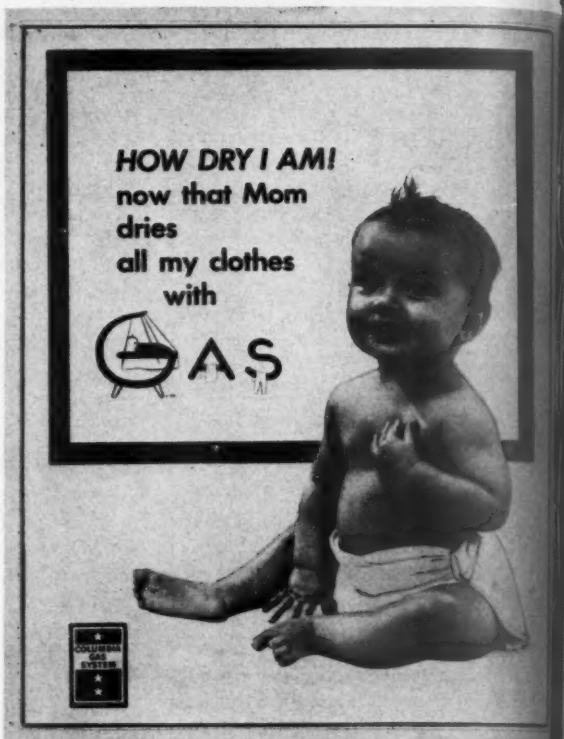


Glorifying gas in the home

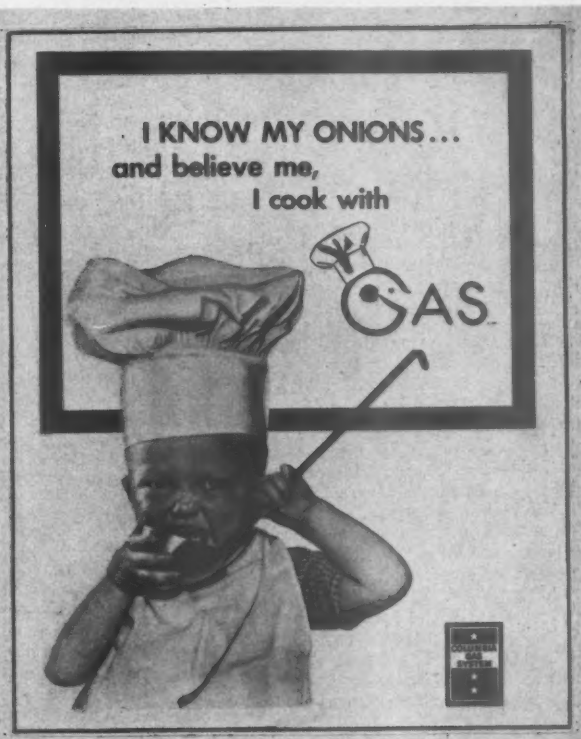
This distinctive series of posters were designed by Columbia Gas System to serve a dual purpose of telling an institutional story while spurring the sale of ranges, refrigerators, water heaters, dryers and air conditioning units that will most profitably build a year-round domestic load. These drawings were developed after Columbia asked artist Jo Spier to do a series of spot illustrations of the many gas uses in the home.

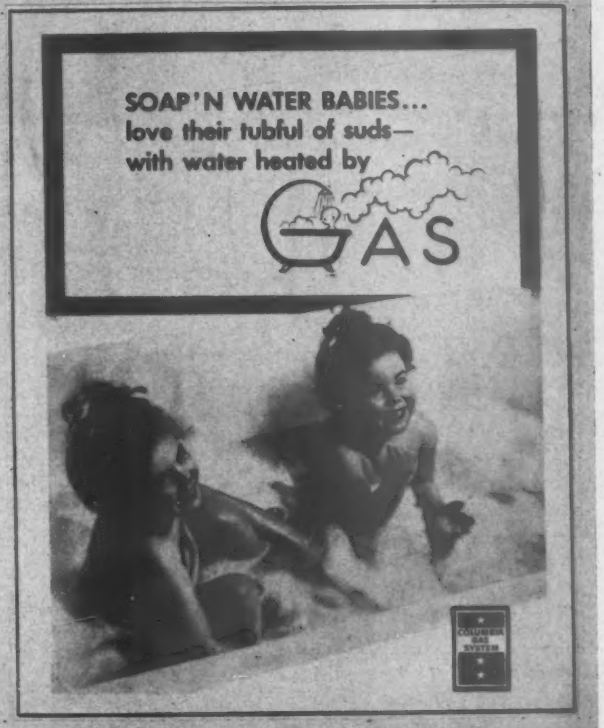
Each poster has been built around a specific appliance story and will be used concurrently with appliance promotions of American Gas Association, the individual Columbia companies and local dealers. They are part of a year-round series distributed monthly by Columbia companies in some 136 cities in Ohio, Pennsylvania, West Virginia, Virginia, Kentucky, Maryland and New York. Printed in two colors, easel-backed and signed by individual companies, the posters are displayed in branch and business offices, collection centers, stores and other places drawing heavy customer traffic.

● *This series of Columbia Gas System pos*



designed to build domestic load and to tie-in with appliance promotions





Industrial relations round-table

Prepared by
A. G. A. Personnel Committee

Edited by W. T. Simmons
Assistant to the Personnel Manager
Philadelphia Electric Company

● **Social Security paying off**—As of December 31, 1953, about 6,000,000 people were getting Social Security benefits. Of this number, some 3,250,000 were retired workers 65 years of age and over.

● **Library additions**—"Improving Supervisory Behavior"—Describes the attempt of one plant to use three techniques of foremanship as the primary basis for a foremanship training program. By Eugene E. Jennings, University of Wisconsin, School of Commerce, Bureau of Business Research & Service, Madison, Wis., 35 pp. $1.15.

"How to Attract and Hold Engineering Talent"—Result of a nationwide survey of engineers and executives. Professional Engineers Conference Board for Industry, 1121 15th St., N.W. Washington 5, $2.00 for non-members of National Society of Professional Engineers; $1.00 for members.

"Establishing a Training Program—A series of papers. Institute of Management & Labor Relations, Rutgers University, New Brunswick, N. J. $.25 46 pp.

● **"Coffee time" vacations**—Many companies give employees an extra two-week vacation. It's done with coffee breaks, other work interruptions.

A study of 102 companies, large and small, shows employers paid for 100 free minutes each week. That's at the rate of 20 minutes daily for 40-hour, five-day week. In a year 83 hours are so used, or better than two 40 hour weeks with pay.

● **"Portable pensions" carried to Detroit**—Area-wide pension plans, introduced in Toledo four years ago by the UAW-CIO, are now also operating in Detroit. Similar "portable pension" plans are in operation in small and diversified manufacturing plants in the Michigan city.

Any employee who quits or is discharged at one of these plants now has up to 18 months to find work in another covered shop before losing his pension credits; if the employee is laid off, he is given up to three years. Pension credits are accumulated at the rate of $1.75 a month for each year of service, with the monthly ceiling (exclusive of Social Security) set at $52.50. After 20 years, a covered employee acquires a vested right to all his pension benefits.

● **More about Suggestion Pay**—The Ford Motor Company gives a better break to the employee whose suggestion is of a "temporary" or short-run nature. Ford now awards one-sixth of the calculable first-year saving or 100 percent of the first two months' savings—whichever is greater. Makes it really worthwhile if an employee can come up with an idea good enough to warrant use on a job that will run only a few months, and protects the suggestor in the event of a further improvement within that usually magic "first year".

It's worth noting that, at the same time, Ford raised its minimum award from $5 to $20, and doubled its maximum from $1,500 to $3,000.

● **Court Decisions**—*Wage cut "quits" and unemployment benefits*—The Pennsylvania Supreme Court has ruled that an individual who voluntarily quits his job because of a small wage reduction, has quit his job without good cause and is not entitled to unemployment compensation. (See Mike Buletza v. Unemployment Compensation Board of Review; Case 173; April Term 1953; Dec. 29, 1953.)

Bad faith not seen in wage raise offer—An employer's insistence that he raise wages rather than pay for additional fringe benefits demanded by a union does not constitute bad faith collective bargaining, in the eyes of the Fifth Circuit Court of Appeals. Consequently, the union loses out on charges that the company had refused to bargain, that the ensuing strike was over unfair labor practices, and that its members were therefore entitled to reinstatement.

Refusing to enforce an NLRB order, the Court finds that the company had made several concessions to the union's demands and had made a wage offer that the union turned down on the ground that it was more interested in improving working conditions than in direct wage increases. The wage offer was put into effect for employees other than those represented by the union, with promise of the same treatment to the union's group if it was accepted within a week. The offer was rejected and the union struck. The company subsequently restaffed the plant with new employees.

The court finds no evidence of bad faith, and remarks that it is well settled that an employer may take into consideration the effect that an agreement reached in the bargaining unit might have on employees outside the bargaining unit. The court specifically notes the T-H language that good faith bargaining doesn't require agreement to a proposal or the making of a concession.

Honoring employee petition repudiating certified union—Can an employer, who has been dealing with a union for about two years since its certification by the NLRB, switch his recognition to a rival union and enter into an exclusive contract with it on the strength of a petition signed by more than 60 percent of the employees repudiating the certified union and endorsing the rival as their representative?

Yes, says the 7th CA, in reversing the Board's unlawful assistance and interference findings, because the employer acted in good faith by relying upon an authentic petition signed by a majority of the employees designating the rival as majority representative (NLRB v. Indianapolis Newspapers, Inc. 54 ALC 523).

Worker forced to retire given damage award—The Federal District Court at Cleveland has awarded $25,000 damages to a former employee of National Tube Company on the ground that the company's compulsory retirement of the worker after he passed 65 deprived him of his legal right under a union contract to be let out only for cause.

The damage action by S. L. Nichols, age 73, who had worked in the company's coke plant for 25 years before he was forced to leave, charged violation of National Tube's contract with CIO's Steelworkers.

The court held that if the company wants to have a policy of compulsory retirement it should have such a policy in its contract with the union or should notify its employees of the policy. It appears that the company had such a policy prior to World War II but suspended it during the war years. Since Nichols was not notified of any renewal of the policy, the court said he had a right to rely on the union contract as it applied to his employment.

● **NLRB Rulings**—*Richfield Oil stock purchase plan "bargainable"*—Richfield unilaterally established a plan by which its officers and employees could acquire stock in the company, but it refused a demand by CIO's Oil Workers International Union to negotiate about the plan. The company took the position that the plan, its administration, and the voting of shares purchased by the plan trustee are not bargainable, as are wages and working conditions. The company insisted that the plan for stock ownership does not involve questions of wages and working conditions.

NLRB counsel takes the view that the company's contribution to the plan does constitute "wages" within the meaning of the Act, and the Board is urged to rule that the plan is a bargainable issue and that Richfield be ordered to bargain with the union forthwith. The company's refusal to agree to the oil union's demand for negotiations and changes in the plan resulted in issuance of a refusal-to-bargain complaint.

Contract excluding some employees—The NLRB has ruled that a contract which excludes certain groups of employees is not a bar to a later petition by the union to represent excluded workers because there is no promise, express or implied, in the contract that the union will refrain from seeking to represent these employees (Standard Oil Company).

(Continued on page 60)

Future and present gas consumers see the story of modern gas ranges at the 1954 Modern Living exposition gas industry exhibit. It's all part of The Peoples Gas Light and Coke Company's long-term plan to keep the 94 percent of Chicagoans who use gas for cooking fuel-happy

How Peoples builds its cooking load

Although its full momentum is still to be reached, a hard-hitting sales, merchandising, promotional and advertising program launched last year by The Peoples Gas Light and Coke Company, of Chicago, is producing results which give strong endorsement to the 15-point Gas Industry Development Program.

Under the guidance of James F. Oates, Jr., chairman of Peoples Gas, and other company officers and executives, preparations were begun more than a year ago for the present program which will be carried out on a continuing basis as part of the utility company's expanding public service program.

Mr. Oates, as a member of the Gas Industry Development Committee of the American Gas Association, is taking an active part in planning and in implementing the current industry-wide development program.

The immediate objective of the Peoples Gas campaign, which calls for increasing emphasis on all phases of company activity relating to promoting the sale of high-quality appliances, is to preserve and increase the company's present share of Chicago's cooking load. Peoples Gas, with its 959,000 customers, all in Chicago, serves approximately 94 percent of the city's total home cooking potential.

The importance of the company's competitive situation and how Peoples Gas is moving to meet the long-term problem in all of its aspects was explained in some detail to stockholders in the company's annual report for 1953 distributed on February 20 of this year.

"Because a privately owned and operated gas utility is the only company providing gas service in its territory, too often sight is lost of the fact that gas competes with other forms of fuel and energy," the annual report relates.

"For example, in Chicago today, families can use gas or a competitive fuel to cook, heat water, provide refrigeration, dry clothes and dispose of garbage and refuse.

"We recognize and believe that competition is healthy and in the public interest since it provides the urge for each business to excel by giving a better performance. . . .

"It is the residential cooking load, the most basic load as far as gas is concerned, for which the greatest struggle is taking shape. Although Peoples Gas holds the great bulk of Chicago's home cooking load—more than 90 percent of it—and although, on the basis of available market data, sales of new gas ranges by dealers as well as by the company, continue to exceed by substantial margins sales of ranges using a competitive fuel, it is certain that continuing efforts to invade this market will be made. . . ."

In discussing the decision of Peoples Gas to initiate its present action program, Mr. Oates stated:

"Our program was undertaken after a careful and thorough study of all phases of activity which would be required in the co-ordinated effort.

"The Peoples Gas program, in which we as a member A. G. A. company are

'living' the development program here at home, is convincing evidence that we consider the improvement of our competitive position one of the principal responsibilities of our senior officers."

Early in 1951 preparations were begun for an extensive campaign promoting the use of the automatic ignition range. This program was launched soon after and reached its full volume this spring.

An able and well-staffed market research department, which grew out of the company's market statistics section formed 17 years ago, has been of invaluable assistance to the management of Peoples Gas in formulating its current sales and promotional program.

That department's scientific market research studies, based on data that is available from sources within the company and from information gathered from outside sources, are furnished periodically on basic matters pertaining to sales, sendout and long-range policy planning. The department is made up of engineers and market and rate analysts trained in general operating, statistical and cost problems of the company.

Carrying the automatic ignition range campaign to the Chicago householder in a systematic program of door-to-door calls is a domestic sales force numbering more than 100 salesmen—the same size force that Peoples Gas had maintained for this purpose before World War II and since 1950.

Giving strong support to the automatic ignition range sales campaign is an accelerated advertising program which on radio and television has for its musical theme, "In Chicago, more people than ever are cooking with gas!"

This theme, supplemented by graphic explanations of the advantages of gas for cooking and other household uses, is being carried to the Chicago public repeatedly in all Chicago daily newspapers, on Chicago television and radio stations, in 40 neighborhood weekly newspapers, on outdoor boards and in direct mail campaigns to customer prospects.

The results thus far are more than encouraging. More gas ranges were sold by Peoples Gas in 1953 than in any year since 1936. The sales of ranges to individual households last year were 45 percent above the total for 1952, and the apartment house range sales for 1953 exceeded the 1952 total by 25 percent. Seventy-seven percent of the cooking ranges sold by Peoples Gas, or a total of 4,450 units, were automatic ignition ranges.

For the first two months of 1954 range sales were up 46 percent over the total for the first two months of 1953. Ranges sold to individual households in January and February of this year were 48 percent ahead of the same months of 1953, and more than 83 percent of these were automatic ignition ranges. Apartment house range sales for January and February of 1954 exceeded the 1953 figure for this period by 43 percent.

Contests among the sales force to increase the sales of automatic ignition ranges, as well as other domestic appliances, have proved highly successful. An automatic ignition range sales contest was held in April of this year, with bonuses paid to the leading 30 salesmen for each sale above the number of units sold during the same month a year ago. Automatic ignition range sales for the contest month were 180 more than in April, 1953.

Of course, Peoples Gas sells only a minor part of the total Chicago gas range market—historically 10 percent or less—and the rest are sold through normal retail channels of trade.

As a result of continuing cooperation and support given by Peoples Gas to Chicago retail establishments, dealer sales of ranges and other gas appliances have also increased as the present action program has progressed.

Peoples Gas, as an important part of its established program to maintain a free-flowing market in Chicago for the sale of all approved gas appliances, maintains a dealer section within its domestic sales department which works in close cooperation with retail appliance dealers throughout the city.

Through the dealer section all such retail outlets are regularly supplied with helpful appliance data, point-of-sale promotion material and other sales aids supplied by Peoples Gas and the appliance manufacturers.

Mass media advertising sponsored by Peoples Gas likewise has been a potent

(Continued on page 56)

Outdoor poster above carries Peoples Gas musical theme of current newspaper, radio and TV campaign. At right are shown more crowds at exhibit at Modern Living exposition. Peoples Gas entertained its visitors in garden theater

Savannah—"action" city!

There's plenty of action in Savannah! Sparked by its inclusion in the Action Demonstration Program, the Savannah Gas Company has gone all-out to promote the use of gas in Savannah homes. Natural gas came to Savannah in the latter part of 1953 and the company reduced its rates an average 10 percent as of January 1. A larger decrease of 25 percent was made as of June 1.

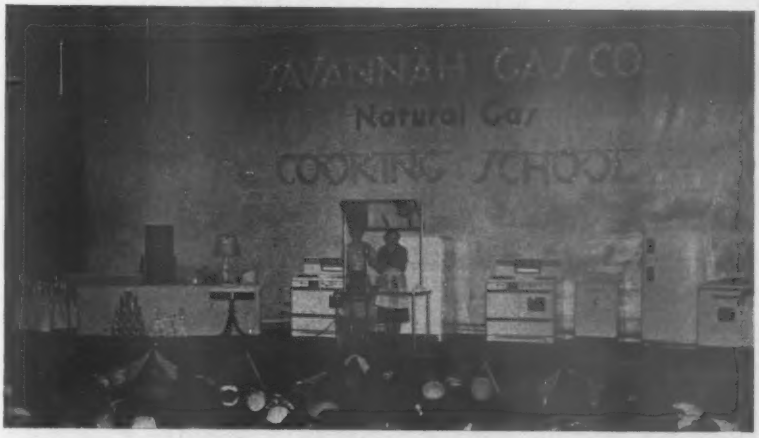
With these major changes as the catalytic agents, the company went into high gear with a sales promotion and advertising campaign that was calculated to combat and overcome the trends made evident from the market survey undertaken as part of its Action Demonstration Program.

The top features of the stepped-up activity to date have been a highly successful Natural Gas Cooking School and a heavy advertising schedule, featuring television and newspapers. The aim of the advertising schedule is to keep a steady stream of messages to all households as to the many advantages of gas as a fuel for different types of domestic appliances.

The aim of the gas cooking school was to make strong dramatic impact that could bring into sharp focus the gas company's public relations activities and a visual presentation of the gas range in use.

Well-organized and well-planned, the Natural Gas Cooking School proved to be a huge extravaganza that attracted more than 4,000 housewives to the city auditorium in two days—May 10 and 11. The first day's session was held in the morning and the second day's in the afternoon, for the convenience of those housewives whose free hours were planned for different parts of the day. Many of the city's foremost retail businesses participated by providing a total of 134 door prizes, including a new CP Caloric gas range.

Other door prizes included such items as a table-top water heater, all types of women's clothing, turkeys and hams, gallons of ice cream, frozen shrimp, cameras, furniture, tableware, flowers, groceries, permanent waves, and tickets to the hotel swimming pool.



Crowd above is only part of throng that viewed Savannah Gas Company's cooking school. More than 4,000 turned out for two-day event. At top is appliance-decked city auditorium stage

One of Savannah's major department stores presented a fashion show of the latest 1954 styles during the intermission on both of the days that the school was held.

Feature attraction of the second day was Mrs. Dione Lucas, star of the national Dione Lucas Television Show, and one of the best known cooking experts in this country. The instructor on the first day was Mrs. Hazel Franklin, home economist of the Savannah television station WTOC-TV, who appears daily to her viewers in an hour-long cooking show.

Both Mrs. Lucas and Mrs. Franklin

Star attraction was personal appearance of Dione Lucas, cooking expert of Caloric Stove's TV show

were ably assisted by the home economist for the Savannah Gas Company, Mrs. Betty Headley. The gas company inserted full-page ads in Savannah's morning and evening newspapers starting the Thursday before the school started. The Caloric Stove Company also inserted a full page ad on Saturday in cooperation with the gas company. Many of the national and local business organizations that participated also plugged the school in their own ads in the local newspapers.

Much of the planning and arrangements for the cooking school were made by Frank Lee, sales manager; Emma Hartridge, in charge of the women's division; and Bert Whitemarsh, dealer representative, all of the Savannah Gas Company. The company's advertising and public relations agency also cooperated.

A new Savannah television station (WTOC-TV) commenced operation in early 1954, and the gas company lost no time in becoming its biggest local advertising sponsor. The company installed a complete all-gas kitchen in the TV studio and maintains it in tip-top shape. This equipment is used for the daily cooking show starring Mrs. Franklin and other similar programs. Recipes from the Dione Lucas Show are also made available by the gas company.

The Savannah Gas Company itself sponsors a daily fifteen-minute news program and spot breaks five times a day, using the A. G. A. "We're the Blue Gas Flames" set listed in the "1954 Catalog of A. G. A. Sales Promotion Aids". Altogether, the company is spending on an annual basis almost $2.00 per customer for television alone.

In late March the Georgia finals of the Mrs. America contest were held in Savannah and received wide attention throughout the Savannah Gas Company service area. This promotion was so successful that the company is enthusiastically endorsing another Mrs. America program in 1955. Hansel Hillyer, Savannah Gas Company president and a member of A. G. A. General Promotional Planning Committee, is sponsor of the national Mrs. America promotion.

The company merchandises, but is building up a strong dealer promotion program as well.

In its most energetic campaign to add more gas dryers to the company's lines, the company hired eight saleswomen. After a training period, these saleswomen were sent out ringing Savannah's doorbells. Housewives in this city were thus instructed as to the many advantages of clothes drying, and the superiority of gas as a fuel for this purpose.

The educational, as well as the direct sales approach, was made as a result of the market survey conducted in Savannah in late 1953, from which it was evident that many women in this city were confused and unappreciative of the many advantages of clothes dryers.

The Action Demonstration Program stresses the testing of those new methods and ideas in the demonstration city that might profitably be used throughout the company's entire service area. The Savannah Gas Company, one of ten gas companies involved in this program, has planned a continuing sales promotion and advertising schedule throughout the year. The over-all policies used are the well-known 15 points of the Gas Industry Development Program.

With natural gas now available and with the advantage of lower rates, the Savannah Gas Company is determined to have gas the most popularly demanded and used fuel for most household uses.

A guide and reference to rate case preparation (a review)

By C. MAYNARD TURNER

Vice-president, Cincinnati Gas and Electric Company

PREPARING FOR THE UTILITY RATE CASE; edited and compiled by Francis X. Welch. Published by Public Utilities Reports, Inc., Washington, D. C. $10.

THE BOOK UNDER REVIEW is written as a guide and reference to anyone involved in the preparation and trial of a utility rate case and deals exclusively with case preparation. By anyone involved in the utility rate case Mr. Welch includes utility management people, those at or below the management level who must engage in the preparation of a case, expert witnesses, utility lawyers who may be called upon for consultation, utility commissioners and commission or regulatory body staff members.

Finally the book must be of value to rate people in any type of utility—electric, gas, water, transportation and telephone. The end for which the book was designed is the improvement in the technique of rate case preparation thus facilitating the process of regulation in this day of increasing frequency of rate cases.

Obviously a book written for such a varied readership can not be too detailed nor can it be too elementary. The author has done a masterful job in writing the book so as to be of greatest use to all intended readers including the student. It will serve as a refresher and check list for persons experienced in rate case preparation and it offers the neophyte a complete and well directed outline of rate case preparation.

As to the contribution of the text toward the desired end of facilitating rate case preparation the over-all appraisal is such as might be expected of anything prepared by Mr. Welch. Anyone who has read the wealth of material which the author has made available to those in the utility field or who has listened to him speak on kindred subjects

(Continued on page 40)

Fuel requirements per 1,000 Btu heat loss:
For natural gas—22.14 therms. For oil—31.5 therms

Residential heating—oil vs gas

By ALF L. CARROLL

Manager, Technical Services Division, Westchester Consolidated Edison Company of New York, Inc.

• Some time ago the A. G. A. Committee on Comparison of Competitive Services planned a study of oil versus gas for space heating. The Committee, therefore, is pleased to endorse this report by Alf L. Carroll and to express the hope that others will be able to add to the wealth of data now made available.

—The Editors.

Westchester County, located immediately north of New York City, has a population of approximately 623,000. Although there is a considerable amount of light industrial activity and some heavy industrial operation in this area, it is a very important suburban community with approximately 70,000 single-family houses. Some of these are heated by coal but the two most important fuels utilized for domestic heating, particularly in new houses, are #2 fuel oil and gas.

At the time these tests were made, the area was being supplied with manufactured gas but has since been converted to natural gas. It was highly desirable under these various circumstances, therefore, to obtain factual information concerning the relationship of the two fuels as a guide for long range planning.

The use of gas for space heating was first introduced in Westchester County about 1928 on a very limited basis. During the next seven years, however, gas rates were progressively reduced and the use of gas for space heating was actively promoted. In 1937 the two fuels were in the following relationship in the territory under consideration:

These field tests were conducted by Mr. Carroll to provide Con Edison with a factual basis in planning space heating service before natural gas arrived

Domestic oil was selling at 7.1¢ per therm (8.5¢ per gal).

Manufactured gas was selling for 9.6¢ per therm.

Table 1 shows their relative position from 1935 to date with 1939 prices taken as 100. (Table on page 53.)

Due to the sharp adjustment in the residential gas rate which occurred in 1948, it was felt essential to take a realistic view of the relative position of the two fuels in order to do intelligent planning for the future. Also, at this time, consideration was being given to the distribution of natural gas in the territory and it was imperative for this additional reason to obtain a factual basis upon which to judge the economic position of oil and gas in this market.

Our aim in this project was to establish a quantitative relationship between the gallons of oil and therms of gas required to do a given heating job. By way of further clarification of the aims of the study, it was agreed that the significant point in this whole question was the actual usage of gas and oil in the average home during a normal heating season and not efficiencies determined either in a laboratory or in a test residence under controlled conditions.

Having agreed upon the objective, the next step was to establish a common denominator for comparing oil and gas usage in different houses. After careful consideration, it was decided that the calculated hourly heat loss of the house on a zero day (the accepted design temperature for the area) would be used as this common denominator.

This factor takes into account the many variables such as the size of room, use of storm windows, weather stripping, insulation, amount of glass and all of the other factors which have a direct bearing on the heating requirements. The heat loss, expressed in Btu's per hour, is also a well established and widely recognized concept in the heating industry and standard methods have been developed

• Abstracted from "Field Tests of Oil and Gas Residential Space Heating," Paper No. 52-SA-21, presented to the Mid-year Meeting of the American Society of Mechanical Engineers at Cincinnati, Ohio, June 15, 1952. The supplement was written by Mr. Carroll on June 17, 1954.

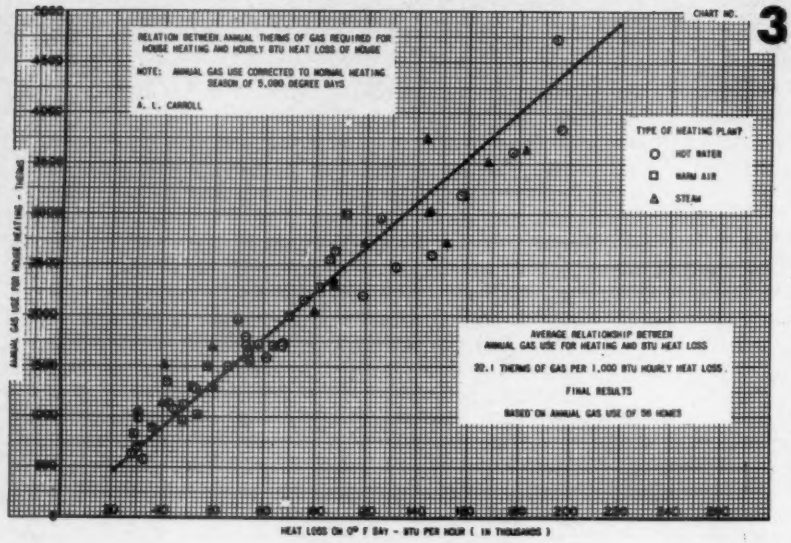


CHART NO. 3
RELATION BETWEEN ANNUAL THERMS OF GAS REQUIRED FOR HOUSE HEATING AND HOURLY BTU HEAT LOSS OF HOUSE
NOTE: ANNUAL GAS USE CORRECTED TO NORMAL HEATING SEASON OF 5,090 DEGREE DAYS
A. L. CARROLL
TYPE OF HEATING PLANT
HOT WATER
WARM AIR
STEAM
AVERAGE RELATIONSHIP BETWEEN ANNUAL GAS USE FOR HEATING AND BTU HEAT LOSS
22.1 THERMS OF GAS PER 1,000 BTU HOURLY HEAT LOSS
FINAL RESULTS
BASED ON ANNUAL GAS USE OF 56 HOMES
ANNUAL GAS USE FOR HOUSE HEATING - THERMS
HEAT LOSS ON 0° F DAY - BTU PER HOUR (IN THOUSANDS)

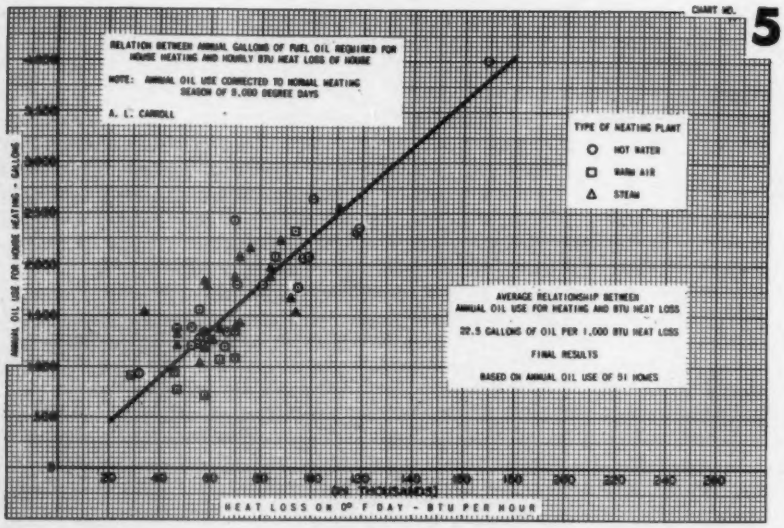


CHART NO. 5
RELATION BETWEEN ANNUAL GALLONS OF FUEL OIL REQUIRED FOR HOUSE HEATING AND HOURLY BTU HEAT LOSS OF HOUSE
NOTE: ANNUAL OIL USE CORRECTED TO NORMAL HEATING SEASON OF 5,000 DEGREE DAYS
A. L. CARROLL
TYPE OF HEATING PLANT
HOT WATER
WARM AIR
STEAM
AVERAGE RELATIONSHIP BETWEEN ANNUAL OIL USE FOR HEATING AND BTU HEAT LOSS
22.5 GALLONS OF OIL PER 1,000 BTU HEAT LOSS
FINAL RESULTS
BASED ON ANNUAL OIL USE OF 51 HOMES
ANNUAL OIL USE FOR HOUSE HEATING - GALLONS
(IN THOUSANDS)
HEAT LOSS ON 0° F DAY - BTU PER HOUR

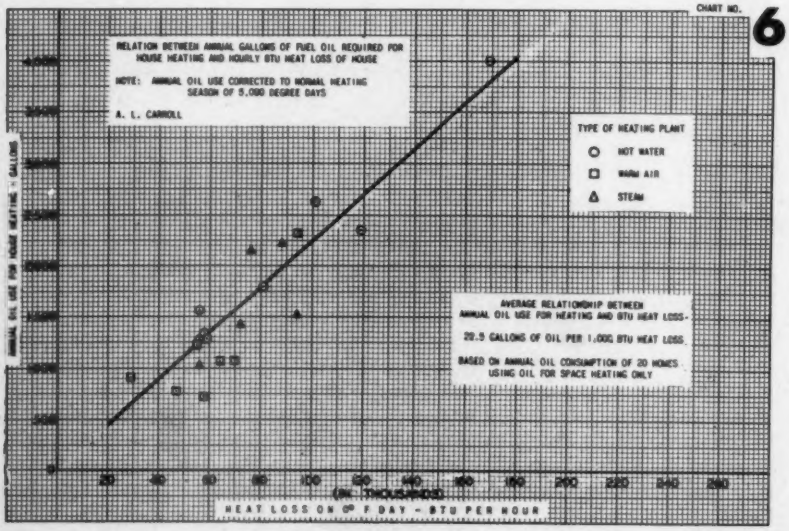


CHART NO. 6
RELATION BETWEEN ANNUAL GALLONS OF FUEL OIL REQUIRED FOR HOUSE HEATING AND HOURLY BTU HEAT LOSS OF HOUSE
NOTE: ANNUAL OIL USE CORRECTED TO NORMAL HEATING SEASON OF 5,090 DEGREE DAYS
A. L. CARROLL
TYPE OF HEATING PLANT
HOT WATER
WARM AIR
STEAM
AVERAGE RELATIONSHIP BETWEEN ANNUAL OIL USE FOR HEATING AND BTU HEAT LOSS
22.5 GALLONS OF OIL PER 1,000 BTU HEAT LOSS
BASED ON ANNUAL OIL CONSUMPTION OF 20 HOMES USING OIL FOR SPACE HEATING ONLY
ANNUAL OIL USE FOR HOUSE HEATING - GALLONS
(IN THOUSANDS)
HEAT LOSS ON 0° F DAY - BTU PER HOUR

for its determination. It is evident that a well constructed and completely insulated seven-room house may represent a smaller heating load than a poorly constructed five-room house without insulation, storm windows or other heat saving features.

All of the heat loss calculations were made on a uniform basis and carefully checked for accuracy. It was our hope that the results of this study would yield valid data which could be applied with confidence to the hourly heat loss determination of a given house, thereby obtaining the amount of oil or gas of any given Btu content which would be needed per heating season. Thus two ratios were being sought, first that of gallons of oil to hourly heat loss and second that of therms of gas to hourly heat loss. Cost comparisons would follow by simple application of prevailing prices.

In choosing houses for this study, we endeavored to cover a wide range of "sizes"—actually a wide range of heat loss. In so doing, we felt that our data would have greater validity. Initially, 21 houses using gas heat were chosen covering a range of heat loss from 28,000 to 183,000 Btu per hour.

Heat loss surveys were already available for all of these houses, but these were examined, checked and re-computed to a uniform basis where necessary. If the survey was not of recent date, a field check was made to determine whether or not any changes had been made in the house or in its use since the survey was made. For example, the use of a particular room might have been discontinued, storm windows might have been installed, etc. The calculations were also checked to insure that a consistent method was followed in using the various heat loss factors involved.

For each house, the gas used for space heating was determined from an actual transcript of the particular customer's account, deducting the gas used for non-heating purposes from the total used during the heating season. The non-heating gas was individually determined from the gas used during the non-heating season, corrections applied for vacations.

In order to reduce all data to a common base, the "net" gas used for space heating was then adjusted to a normal heating season based on the ratio between the degree days of the year for which data was available and 5,090 degree days which was considered normal for this area.

(Continued on page 51)

Gas stars in "Time" supplement

One of the strongest joint promotion efforts in the history of America business appeared in the June 28 issu of *Time* magazine, under the auspice of American Gas Association. The 16 page section is made up of advertisin messages sponsored by leading compa nies representing virtually every aspec of the industry.

Some of the advertisements are shown at left. The lead-off four-color A. G. A ad is on the front inside cover of this is sue of the MONTHLY. The section ha been reprinted and is available throug A. G. A. at 10 cents per copy. Blow-up of the cover are also available for dis play.

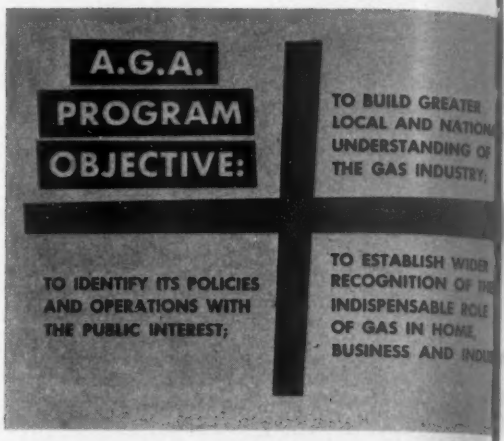
In an introduction to the reprint, Ea H. Eacker, A. G. A. president and presi dent of Boston Consolidated Gas Co congratulated industry leaders wh joined "in one of the most dramati presentations of an industry story I hav ever seen."

Participating organizations in additio to A. G. A. are American Meter Co Caloric Stove Corp., Chase Nationa Bank, Hardwick Stove Co., Internationa Nickel, Jones & Laughlin Steel Co., LI Gas Promotion Bureau, Magic Chef, Inc Robertshaw-Fulton Controls Co., Roc well Manufacturing Co., Geo. D. Rop Corp., Ruud Manufacturing Co., Serve Inc. and A. O. Smith Corporation.

Broad distribution of the reprin among financial people, architects, builc ers, realtors, appliance dealers, and mar agement personnel of industrial an commercial users of gas is urged b Norval D. Jennings, A. G. A. adverti ing manager.

● *First in a series of joint regional conferences challenges l*

Wanted—more public relations catalysts



A history-making event was held in Boston, Mass., on June 16 when five national and regional associations pioneered the gas industry's first joint regional public relations conference. Staged as a pilot-plant operation, the meeting will be followed by similar regional conferences throughout the country during the next year.

An attentive audience of more than 105 gas company presidents, public relations directors, vice-presidents, sales managers, division managers and superintendents heard an appeal for the gas industry to speak up to its publics "with a loud single voice."

Representatives of American Gas Association, Gas Appliance Manufacturers Association and Independent Natural Gas Association of America presented high spots of their public relations programs and activities. Co-sponsors of the meeting with these national groups, were The New England Gas Association and Liquefied Petroleum Gas Association of New England, Inc. Featured on the program was a panel discussion of company problems, with Clark Belden, NEGA managing director, as moderator.

Roy E. Wright, NEGA president, described the conference as "a striking development in association cooperation."

Other speakers urged the industry to talk the end-results of public relations—results such as lower employee turnover and more favorable community attitudes toward gas company requirements and activities. All three national association speakers emphasized the basic need for building greater public understanding of the gas industry.

Virgil L. Rankin, management public relations consultant, emphasized that the "end-result of a sound public relations program is a healthy business climate. Good public relations is so simple, so inexpensive and so downright sensible that it is hard to understand why it is not a well defined part of every executive's personal program.

"Supporting your industry's public relations program with your pocketbook is essential," he declared, "but the real support is your own personal implementation of the program locally."

Remick McDowell, vice-president, The Peoples Gas Light & Coke Co., Chicago, chairman, A. G. A. Public Relations Coordinating Subcommittee, discussed "A. G. A. and You—the PR Challenge."

The Association's recent survey of member companies has revealed the striking fact, he said, that organized public relations activities are lacking in many gas companies, particularly in smaller ones. In other companies, public relations requires greater grass roots emphasis.

"How well we recognize and solve our public relations problems will determine whether we are to remain one of the nation's great industries; one that continues to expand, and not one that is moribund," Mr. McDowell asserted.

"We of the gas industry must do a basic selling job in presenting the true story of modern gas service and the economics of the industry to employees and to the general public," he added. "The story is there—the abilities are untapped—the potential coverage is very complete—the catalyst is needed.

"A. G. A.'s new public relations activities are designed to give you a national focal point of practical assistance in the basic selling job."

He noted that the objective of the Association's program is: "to build greater local and national understanding of the gas industry; to identify its policies and operations with the public interest, and to establish wider recognition of the essential role of gas in home, business and industry."

A. G. A.'s initial public relations theme for 1954 is: "Modern gas service is vital to the progress of your community."

Regional conferences such as the Boston meeting are expected to help gas companies organize and strengthen their public relations activities, Mr. McDowell said. He revealed that A. G. A. has initiated a special exchange of successful public relations ideas and techniques and will greatly expand its flow of basic gas industry information to member companies.

In addition, the Association has started the first newsletter devoted specifically to public relations in the gas industry. The title "Intercom" has been selected, he noted, because it symbolizes two-way

mpanies to organize their efforts to build greater public understanding

communication—a basic plank in the new program.

During the meeting, delegates received envelopes containing samples of successful public relations materials and tools used by local companies. Mr. McDowell urged company officials to keep A. G. A. well posted on their problems and activities. He also stressed the importance of the A. G. A. Educational Program and the new A. G. A.-EEI Customer Relations Training Program.

Before closing, he asked company representatives to "pass the ammunition" in order to "lay the groundwork for a significant coordinated PR offensive."

for the gas appliance industry with substantial profit won in public good will.

W. E. Wilson, United Gas Corp., Shreveport, chairman, INGAA Public Information Advisory Committee, spoke on "Working with Local Companies for Good All-Industry Public Relations."

He noted that the INGAA program has provided a set of valuable signposts for use by all segments of the gas industry—tools which can be employed to build fences and unite on objectives. Guiding principle, he said, is that no public relations program can be successful unless it is in the public interest.

Mr. Wilson stressed that the public relations tools at the local level.

"How do you expect to attain anything in your company without an organized program?" he asked. "You have to set up public relations objectives and set out piece by piece to attain them."

Dr. Wesley Wiksell, Louisiana State University, consultant on communication in industry, opened the afternoon session with a thought-provoking address "Have You Tried Listening?"

He showed that getting a message to the public by listening is an important part of public relations.

"Even in your public relations you can't *act* as though you're listening—the public will know that you're faking!" he declared.

Panel of experts discussing how to organize public relations in small gas companies—and other questions from the audience: (left to right) Eugene F. Martin, W. E. Wilson, Clark Belden, moderator, Virgil L. Rankin, Howard A. Praeger, Wesley Wiksell, George R. Kelley

"GAMA Public Relations—in Action!" was described by Eugene F. Martin, vice-president, Carl Byoir & Associates. He pointed to the Gas Industry Development Program as a "standout event which has transformed us into a united industry."

GAMA's public relations program has accomplished three things, Mr. Martin declared:

(1) It has moved the gas business into the national foreground; (2) it has delivered a message of product and fuel superiority to all important publics with increasing force, and (3) it has helped consolidate the industry's brain power, productive capacity and leadership.

He termed the past year "decisive" has the same stake as the gas industry—to have dependable and adequate supplies of natural gas available now and in the future at prices competitive with other fuels. Continued high level of exploration and discovery is essential to the health of the natural gas industry, he declared. He spoke out strongly against treating producers and pipelines as utilities.

INGAA advertising was displayed prominently at the meeting. Mr. Wilson noted that these materials support A. G. A. themes and plug gas industry teamwork.

Mr. Rankin commended the three national associations on the planning and practical materials in their programs. He called for greater application of public

Seven men served on the afternoon panel. Howard A. Praeger, New York State Electric and Gas Corp., Binghamton, represented A. G. A. as a member of the Association's Public Information Committee. Other panel members were the conference speakers and George R. Kelley, chairman, LPGA New England District Educational Committee.

The group answered written questions from the audience on such subjects as how to organize public relations in a small gas company, how to train employees to reach the public, and how to impress top management with the need for an organized public relations program.

Meet the stars of tomorrow's kitchen—today

—NEW BUILT-IN GAS COOKING UNITS AND SERVEL GAS ICE-MAKER REFRIGERATOR

Debbie reaches for an IceCircle made automatically in the Ice-Maker by the silent Servel Gas Refrigerator. No trays needed!

You certainly don't need to be a Hollywood star to enjoy smart new kitchen design. *With the ultra-modern* built-in gas cooking units, you can put the top burner units along one wall or use them as a peninsula to divide kitchen and dining areas. Oven-broiler units can be installed wherever you want them—and at just the right height for you.

The other member of this all-star kitchen cast is the Servel Gas Refrigerator with the automatic Ice-Maker. This is the only refrigerator that uses a tiny gas flame to make the cold and ice. That's why, with Servel, you enjoy silent, trouble-free refrigeration—*always.*

See these smart new appliances in "Susan Slept Here." Then stop in at your gas appliance dealer's. Discover why today's automatic gas appliances rate top billing—everywhere.

Roomy, waist-high gas oven is built into wall. It features oven clock control, automatic temperature control and the *accurately* controlled heat of gas.

COMPANY SIGNATURE HERE

Only **GAS** gives you such modern automatic appliances

RKO film offers tie-in promotion

Scenes above show how gas appliances are featured in new RKO movie—with Debbie Reynolds offering eye-appeal. Gas companies can tie in with theatre operators

By H. D. "PAT" NICHOLSON
A. G. A. Hollywood Bureau

The gas industry hits the jackpot for motion picture tie-in promotion with RKO's newest technicolor film, "Susan Slept Here," co-starring Debbie Reynolds and Dick Powell.

A stunning all-gas kitchen is featured in scene after scene, throughout the entire picture. This picture is so good for gas, that after having seen it, American Gas Association gave it an all-out endorsement.

"Susan Slept Here" is a delightful technicolor comedy, produced with a light touch. It is the kind of picture that appeals to all age groups, and is one which the gas industry can whole-heartedly support. It puts gas in a prominent, modern setting, and adds glamour to gas appliances—an excellent merchandising point on which we should capitalize.

RKO Studios have been very cooperative in providing all assistance possible during the production of the film, and they are very desirous of doing a complete selling job with the cooperation of the gas industry.

During the picture Debbie Reynolds cooks a complete breakfast in this very modern kitchen. Debbie bakes a cake in the built-in oven unit. She even roasts prime rib! Dick Powell, her co-star, uses ice circles from the gas Servel Ice-Maker in several scenes, and both stars open and close the freezer and cabinet doors a number of times.

Domestic scenes abound in "Susan Slept Here," and all kitchen shots are all-gas—thanks to A. G. A. Promotion Bureau, which arranged national tie-in

A.G.A. HOLLYWOOD BUREAU
BOX 3249 TERMINAL ANNEX
LOS ANGELES 54, CALIFORNIA

Please send us _____ 4 Col., 12" baked ad mats of Debbie Reynolds in "Susan Slept Here."

I understand ad mats are priced at $4.50 each.

Enclosed is our check _____

Please send invoice _____

_____
Title

_____
Company

_____
Address

_____
City and State

Our industry will have a full page in RKO's press book on "Susan Slept Here", which urges their dealers (the theatre exhibitors of America) to tie-in with the gas industry at the *local* level. All gas companies are urged to capitalize on this willingness, and make the most of this promotion.

This type of movie "break" for gas is a rare opportunity! Ten to 12 million people will see this picture—*Let's tell them IT'S GAS!*

Playing dates of the picture will be released by the studio well in advance of showing, wherever it plays in America. RKO has exchange offices in all major cities.

All a gas company has to do in its area is to contact these exchange offices through their local theatre, to find out when the film is booked in their town.

The ad, as shown on page 24, is all ready for your use. It is four columns wide and 12 inches deep.

When the play date is determined, simply run the movie ad in place of your regularly scheduled ad for that week, at no extra cost.

Tie-in your dealers with reprints of the ad, available from A. G. A.'s Hollywood Bureau, and stills from the picture, available through your theatre manager.

Conduct local level contests. A "Debbie Reynolds Cooking Contest" can be worked very successfully, using your own and your newspaper's home economics department.

A cooking school demonstration can be arranged during the showing of the picture at your theatre. You will find your theater manager very willing to cooperate.

Lobby displays can be set up, and door prizes given, with the cooperation of your dealers.

Contact your builders and architects to tie-in the promotion of the built-in gas cooking units.

Even fairs, home shows, and other local exhibits of gas appliances can be tied-in with "Susan Slept Here."

Another tried and successful idea has been the staging of fashion shows with your leading department store. Call it "Fashions for Cooks", showing that with modern automatic gas appliances, the hostess can cook in advance, and be fashionably dressed during finishing touches and serving chores.

RKO is ready, willing and waiting to help the gas industry in this national campaign.

Use the theater's experience, talent and know-how for promotion.

Tie-in with "Susan Slept Here".

Order your ad mats now.

Use convenient order form at left.

Family scene with "Mrs. America 1955" typifies contest's new emphasis

"Mrs. America" quota over the top

Signed contracts, telegrams and letters coming into American Gas Association headquarters about next year's "Mrs. America" promotion have brought the number of participating gas companies to 73 and the number of meters they represent to 10,625,805. This preliminary total was achieved by June 24 and easily met the stipulation that A. G. A. sponsorship of the 1955 contest be predicated on participation by at least 35 percent of the meters represented by the Association's membership.

With 42 percent of the industry—47 percent more meters than last year—and with five of the eight 1,000,000-meter companies already signed up, A. G. A. announced that the option to continue the promotion will be exercised.

The drive for increased industry participation is directed by Hansell Hillyer, president of Savannah Gas Co., who as a member of A. G. A. General Promotional Planning Committee is acting as sponsor of the "Mrs. America" promotion.

The keen interest in next year's promotion reflects a general satisfaction with both the results of this spring's first gas industry sponsored contest and in the proposed changes in the promotion planned for next year. These changes are said by Mr. Hillyer to have corrected all valid criticisms of the pilot contest operation.

A major change in the promotion format is the elimination of supermarket sponsorship. Sponsoring gas companies will have complete charge of all local and state contests, including the distribution of entry blanks, arrangements for tie-ins and increased dealer cooperation.

Another important change is the broadening of a choice of ranges to be promoted as "Mrs. America" ranges.

(Continued on page 55)

"Mrs. America" quotes

● ". . . did not participate in 1954 as we could not agree with the basis on which program was set up. However, we consider the new 'Mrs. America' program for 1955-56 to be designed precisely as we would have done it ourselves. Please accept our sponsorship for the program for the three states of North Dakota, South Dakota, and Montana. We believe that every gas company in the country should participate as by coordinated effort the gas industry can derive a maximum of needed publicity for gas through this program at a minimum cost."

W. L. Hayes
Montana-Dakota Utilities

● ". . . have signed up for '55. Look forward to full national participation whereby greatest benefit can be obtained by individual companies through joint action."

Fred K. Lehtinen
Lake Shore Gas Company

● ". . . All of the objections for the other companies not participating during the past year have been very well covered. . . . We here think that the program can grow into a very fine advertising medium for the gas industry."

R. H. Trester, General Manager
Metropolitan Utilities District, Nebraska

One man's view of gas industry safety

When Rauel N. Papich, American Gas Association safety consultant, returned to A. G. A. headquarters from an orientation tour that took him to nearly every part of the country, he discussed his impressions with Leo R. Nuhfer, chairman of A. G. A. Accident Prevention Committee and safety director of The Peoples Natural Gas Co., Pittsburgh. Mr. Papich's initial reactions, fresh and objective because of his newness to the gas industry, should prove interesting and informative to our readers.—The Editors

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Mr. Nuhfer: How many companies did you visit during your trip?

Mr. Papich: In all I visited some 18 companies ranging in size from small companies of 100 or less employees to very large companies employing as many as 5000 persons. The purpose of these visits has been to enable me to see firsthand how the gas industry operates and to acquaint myself with as many representative members of the Accident Prevention Committee as possible.

My itinerary was planned to enable me to visit companies representative of every phase of the gas industry—straight natural gas, manufactured gas, manufactured and mixed gas, and transmission companies. To do this I covered the country from north to south and east to west and traveled about 15,000 miles in less than two months.

Mr. Nuhfer: What is your general over-all impression arising from this extensive trip?

Mr. Papich: Anyone making a trip like this could not fail to see that there has been and is a great deal of effort expended in safety and accident prevention activities in the gas industry. A very positive impression was made by the Pacific Coast Gas Association Safety Conference I attended in San Francisco. Though there is only a handful of professional safety men employed by the gas companies out there about 100 delegates from the gas distribution sections of gas companies along the entire Pacific Coast attended the conference.

Mr. Nuhfer: You say one of the purposes of your trip was to become acquainted with as many members of our Accident Prevention Committee as possible. What kind of a reception did our members give you?

Mr. Papich: Wonderful! Realizing that I came from outside the industry, they did everything to pour as much information into me as they could during my short stays.

Mr. Nuhfer: What was the general procedure when you visited each of these companies?

Mr. Papich: Two full days were spent in the company of each safety director. The pattern generally was to spend the first morning meeting the company president and, in many instances, all the top management people. Then we visited as many operating sections and facilities as time permitted.

My aim was to see the performance of as many jobs as possible—to see the actual jobs that turn up the statistics in accident frequency rates. I know I haven't seen every job performed in the gas industry, but by now I have seen a great many of them.

Mr. Nuhfer: Well, now that you have taken a good look around, what do you feel is our industry's greatest problem in safety matters?

Mr. Papich: One of the conditions that made a very definite impression was lack of standardization. I know when I use the term, many operating men in *any* industry are very skeptical when somebody suggests changes or standardization.

Standards should be viewed not as a ceiling but as a floor on which to build. Standardization is not a handicap to creative activity. On the contrary, problems that have been solved by standards become a matter of routine, thereby freeing the creative faculties for problems that are still unsolved—after man had standardized on the round wheel, he was free to use his brains to make the wheels move faster.

Let me cite cases I noted where it would have been beneficial. For instance in regard to safety, I visited one company where a pig was just being taken out of a pipeline at a trap with only so-called normal safety precautions. The men in this instance were cautioned about smoking and the operation went on.

In another company a similar operation called for: (1) No trucks to be within 300 feet of the trap; (2) Men on the job were instructed to leave all matches, cigarettes, pipes, etc. at the trucks; (3) Precautions were even taken as to the type of clothing worn—nylon, dacron, etc., were prohibited.

Now both companies were doing the same operation under the same relative conditions, but the method of operation was completely different. Why? Well, it may be interesting to note that where the safety precautions were rigidly enforced, that particular company lost several men during one of these operations, and as a result, the above safety precautions were incorporated.

Another instance is the use of a trenching machine. The company was using its machine with men laying pipe in the trench, and in the course of the operation, the man laying the pipe backed into the machine while it was in operation. As a result of this accident, "Safety Practices in Regard to Personnel in Trenching Operations" was written and a very effective guard was devised so that this particular type of accident could never happen again.

Incidentally, this type of information should be available to the rest of the industry as soon as possible after any fatal accident, and if necessary, steps should be taken to protect all gas personnel from any similar experience.

I like to think of the Plutarch saying, "To make no mistakes is not in the

(Continued on page 61)

PAUL E. EWERS, CHAIRMAN • A. T. GARDNER, VICE-CHAIRMAN

A computation of a depreciation reserve depends on at least four assumptions, none of a precise nature

Computing depreciation reserves

By GEORGE T. LOGAN
Philadelphia Electric Company

There has been a tendency on the part of some individuals and some regulatory bodies to pursue a specious exactitude in determining amounts that should be in a depreciation reserve at a given time. The results of scrupulous calculations too often have been accepted at face value and translated into requirements for substantial adjustments of the depreciation reserve. In other instances the result of a pseudo-scientific computation of the amount of "accrued depreciation" has been utilized for rate base purposes. Is the appearance of accuracy and precision an illusion?

After time consuming studies, the New York Commission in 1948 found that the depreciation reserves of Niagara Mohawk Power Corporation were deficient by approximately $44,000,000. The Commission ordered the Company to adjust its book reserve upward by this amount and increase the annual accruals for depreciation to rates specified by the Commission. Only five years later, the Commission staff agreed with the Company that the book reserve was $16,000,000 *in excess* of the required reserve! Could the results of computations of the "required" reserve have been equally significant at both times?

For many years the Bell Telephone System has been accounting for depreciation on a "straight line" basis. Continuous and extensive studies have been made as a guide to judgment in adjusting rates for accruing depreciation. Here is a case where consistent accounting treatment, based on extensive study of the average life expectancy of the various properties, has been applied from the beginning.

One would therefore expect that the results reflected on the books would automatically reflect the "required" or computed reserve. However, studies of the "required" reserve over the last 20 years indicate considerable variation from one period to another between the book reserve and the computed reserve.

Mr. Logan, a graduate civil engineer, joined Philadelphia Electric in 1938 and has since specialized financial and cost problems in various capacities

In some years the book reserve has been less, and in other years more than the computed reserve.

Some regulatory authorities have recognized that estimates of depreciation are inexact under the best of conditions. For example, the California Commission has gone on record in recognizing this difficulty and, as a practical solution to attaining the objective of recovering the original cost of plant (less estimated net salvage) over the useful life of the property, has adopted the remaining life depreciation method.

Why then does a computation, made with great punctiliousness, produce an answer that is not necessarily correct or infallible? Is the mathematics incorrect?

The answer is that there is nothing wrong with the mathematics. But the results depend upon a combination of at least four assumptions, none of which can be estimated with precision.

A computed reserve assumes:

1. That the property, for which the computation is made, will experience a specified average life span—the life span will not be known until all units have been retired in the future.
2. That the mortality or dispersion pattern is known; i.e. what percentage of all units installed in a given year will survive at each age.
3. That the presently surviving units of property, for which the reserve is computed, have precisely conformed to assumptions 1 and 2.
4. That the future amounts of net salvage (or removal cost) of the presently surviving units is now known.

Average life

To be objective, any estimate of the probable life of present plant must be made in two steps requiring:

1. Life analysis, requiring statistical analysis of past retirement experience to discover what inferences can be drawn. Whether such inferences are significant depends on the data available, whether there is a consistent, homogeneous relationship between retirements and age, and whether there have been material changes in conditions affecting retirements.
2. Development of judgment estimates of average life for existing plant,

based on the life analysis results, together with all other known factors.

The methods of analyzing past experience and the difficulties of drawing accurate conclusions from the results have been ably set forth elsewhere. It is sufficient here to point out that: reliable data is often non-existent or, if existent in certain areas, it is not on a uniform basis. And even if it can be placed on a uniform basis, its statistical reliability may be doubtful because there just hasn't been sufficient experience with long lived property.

As part of the second step, a strong element of judgment is required in interpreting past experience for the purpose of estimating the probable life of existing plant. Even if past experience can be determined with certainty, there is no assurance that it will be repeated in the future. Who can say what economic and technical events will develop and influence the remaining life of our property?

However, in computing a depreciation reserve it is necessary to assume a specified life span. Under the age-life approach, we in effect say that: (1) from the time the property was installed, we should have been accounting for depreciation by a particular method, (2) the property is now a certain age and we should therefore have accrued in the reserve a particular amount of dollars and (3) if we continue on this basis until the property is retired exactly as we have assumed, the reserve will exactly equal the cost of the property (or other desired basis).

For utility property, the computations usually are made for many units instead of each single unit—by the group method which recognizes that the individual lives of the units will vary from the group average (i.e. dispersion). Based on this dispersion, it is possible to develop "depreciation reserve factors" which show the computed reserve in percent of surviving units at each age, based on an assumed average life. For purposes of this study the examples utilize "straight line" reserve factors based on the generally used standard Iowa Type survivor curves. (It is recognized that a true mortality curve representing actual experience can sometimes be developed and that other generalized types of curves are in use.)

Obviously the amount of computed reserve will vary if the average life estimate varies. Suppose we aren't sure as to whether the electric meter account will realize an average life of 30 years or 35 years. How much difference will there be in the computed reserves? As shown by the following example, the differences will vary according to the age of the plant, with the difference ranging up to 15.6 percent for the curves assumed in this particular example:

Iowa S_2 Curve

Vintage Age of Plant (Yrs)	Reserve in % of Plant—with Assumed Life of 30 Yrs	35 Yrs	Percent Difference (B–C) ÷ C
(A)	(B)	(C)	(D)
15	46.9%	41.2%	13.8%
30	74.8	68.6	9.0
35	80.8	74.6	8.3
45	90.0	84.3	6.8

Iowa R_2 Curve

Reserve in % of Plant—with Assumed Life of 30 Yrs	35 Yrs	Percent Difference (E–F) ÷ F	Maximum Percent Difference (B–F) ÷ F
(E)	(F)	(G)	(H)
41.6%	36.0%	15.6%	30.3%
72.1	65.0	10.9	15.1
79.7	72.3	10.2	11.8
90.1	83.8	7.5	7.4

Mortality

An inspection of the reserve factors shown in the table shows another source of variation in the amount of the reserve. Supposing we aren't sure of the mortality characteristics but are sure of the average life? Again we find in the table that there is a variation in the amount of the reserve. And if we aren't sure of either the average life or the mortality characteristics, the difference in reserves might easily be in excess of 30 percent as shown in the table. This difference is greatest for plant which is relatively young in relation to the average life, a situation that is common for electric utilities which have experienced recent rapid growth of plant.

Can mortality characteristics of property be determined with accuracy? In those cases where accurate records of past experience provide data sufficient and suitable for statistical analysis, one can apply statistical tests to determine whether there is sufficient data to provide reliable information and whether it is uniform.

In practice, it is well nigh impossible accurately to determine the mortality characteristics of each and every one of the numerous plant accounts. Yet the attempt must be made in order to compute the depreciation reserve applicable to all of the accounts. And if we think we know what the past experience has been, do we know how it has changed? Without knowing how it is changing, how can we reasonably say that we expect our present property will have such and such mortality characteristics? Yet in order to compute a depreciation reserve, we must assume a mortality characteristic—the second assumption necessary to the computation of the depreciation reserve.

In the case of the Iowa curves, there are three different types of curves which represent different mortality characteristics:

1. L curves, in which the greatest frequency of retirements occurs before the average life (left moded).
2. S curves, in which the retirements are symmetrical about the average life.
3. R curves, in which the greatest frequency of retirements occurs after the average life (right moded).

Each type of curve is further identified by a number representing the degree of curvature, the curvature progressing from flat to sharp as the numbers progress. The type and degree of curvature influence the computed amount of the theoretical reserve.

Conformance to assumption

As previously mentioned, computations of the depreciation reserve for masses of property require assumptions as to average life and mortality characteristics. Having made these assumptions, we in effect have said that every unit of property will adhere to a mathematical formula expressed as a survivor curve, our third assumption. Need we ask if they will? We know from past experience that they didn't, because we tried our best to fit a survivor curve to scattered points in order to express the past experience as an empirical relationship.

Statisticians can measure the average of the past individual deviations from the mathematical curve which is used as the basis for estimating the depreciation reserve. Their unit of measure is a "standard error of estimate"; the smaller the standard error the better the conformance. In two-thirds of the cases, the number of actual survivors will be within one "standard error" of the number of survivors that would be expected from the curve upon which the calculated reserve balance is based.

In other words, they are saying that

the greater the departures from the assumed survivor curve, the greater the actual reserve may vary from the estimated. The true depreciation reserve will lie between limits and will not be an exact amount. With reasonably good conformance, it can be shown that the true depreciation reserve can vary as much as 20 percent either side of the reserve computed on the basis of the empirical curve.

In actual experience, it is impossible to find good conformance for each utility plant account. In addition, we have no way of knowing whether future deviations of present units will follow the pattern of the past. Under such conditions, it would appear to be more realistic to estimate limits of the reserve instead of computing one amount, as is the common practice.

Net removal cost

In computing a depreciation reserve, consideration should be given to the amount of salvage to be realized and the removal costs to be incurred at the time property is to be retired. Such consideration must be given, because the estimated amount ultimately to be accrued in the depreciation reserve, when all units of present property are eventually retired, should theoretically equal the difference between the total cost of all of the units and their net salvage or net removal cost if the accounting objective is to be attained. The determination of such net salvage or net removal cost is the fourth estimate required to compute a theoretical depreciation reserve.

In practice, it is usual to find that analyses of past experience show no uniformity from year to year in the rate of net salvage or net removal cost. Such costs are usually "lumpy" and vary substantially. One analysis of a large gas property over an eleven-year period showed a range of from 12.2 percent net salvage in one year to 31.6 percent net removal cost in another with no indication of a trend. With unknown future changes in price levels and costs, how can a precise estimate be made now of the costs to be incurred in the future?

In the case of the gas property just cited, the computed depreciation reserve could be adjusted by factors ranging from 87.8 percent to 131.6 percent, to produce a range of nearly 50 percent in the amount of computed depreciation reserve. In this case, the analysis showed a composite average for the 11 years of 5.9 percent net removal cost. Judgment would dictate that the average was more indicative than the extremes. But judgment would also recognize the fact that future costs could be different than past costs and that only an approximation can be made of the adjustment factor applicable to the computed depreciation reserve, since major variations from the average are to be expected.

An illustrative example

It has been pointed out that a computation of the theoretical depreciation reserve involves four separate assumptions, and that as a result there can be a wide range in answers. Let's look at an actual example of the development of the theoretical straight line depreciation reserve for just one gas plant account, "Account 362—Meters". This particular account was selected as an illustrative example because it was one of the few primary accounts analyzed which had had sufficient experience to indicate the approximate average life. Furthermore, of all of the primary accounts, it was one of the few truly mass accounts best representing large groups of units apparently homogeneous as to type and character.

The dollar balance of the account was nearly $3,000,000, representing the original cost of 162,305 meters of three basic types—5-light, 5A and 5M. The ages of the surviving dollars in the account ranged up to 62 years, the average being 12.3 years. The money amounts, as reflected on the books of the company and its predecessors over a 32-year period, reflected widely varying accounting practices. Though the company had been maintaining continuing property records for many years, there were no data available in the form required for actuarial analysis prior to 1940, because it was not until that year that plant balances by year of installation were initially established in the continuing property records.

Accordingly, the analyses of past experience with respect to average life and mortality were approached in two ways in order to check the results of one method against the other. Both the "actuarial" and "simulated plant record" methods were used. Because of the difficulties of stating past retirements on a uniform basis in terms of present original cost, the actuarial method was necessarily confined to units instead of dollars.

The annual rate actuarial method was used to analyze retirements over a ten-year period, to determine the survivorship characteristics of each type of meter as well as all types combined. The results of each analysis coincided closely to the extent of the experience, with only the outmoded 5-light meters showing complete experience. The conformance was excellent, and an Iowa 41 R_4 survivor curve was clearly indicated.

In order to utilize the simulated plant record method, it was necessary to adjust the book balances and additions so as to place them on a uniform present original cost basis. The farther back in time such adjustments were made, the less reliable they became. Accordingly, it was felt desirable to confine annual balances to a 19-year period and annual additions to a 40-year period.

Upon analysis, it was found that the results were not entirely satisfactory. Though application of the experience test showed "good" experience, the conformance test indicated "poor". The best Iowa curve fits ran as follows: 1st, 30 R_1; 2nd, 31 S_0; 3rd, 32 L_1.

Though the results indicated a flat survivor curve, they did not clearly indicate whether it was right or left moded. The dispersion characteristics were questionable.

Thus, the results of the analyses of past experience were varied and there was no clearcut single answer, only a range of answers. In the light of these findings, and after a review of the retirement policies contemplated for this account, it was concluded that probably an Iowa 35 R_2 would best represent the average life and mortality characteristics to be expected of the account. This resulted in five different estimates, all reasonably close. How great a variation would there be in the amounts of theoretical depreciation reserves if computations were made on each basis?

Results of computations of the "straight line" reserves on each basis are summarized as follows:

Iowa Curve Assumed	Computed Reserve % of $2,915,251 Account Balance	Computed Reserve Amount
41 R_4	27.7%	$808,100
30 R_1	25.8	753,200
31 S_0	25.1	732,600
32 L_1	23.2	676,100
35 R_2	26.7	777,000

Though the assumptions appear to be close, the results dependent upon those assumptions scarcely could be considered to be close: The 19.5 percent difference between a $808,100 reserve and $676,-

(Continued on page 55)

CHARLES C. EELES, *CHAIRMAN* · RAY TROWBRIDGE, *VICE-CHAIRMAN*

● *Comprehensive program and co motio*
for industry's major commercial king

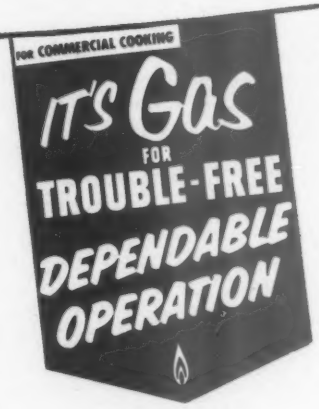
New PEP program slated for fall

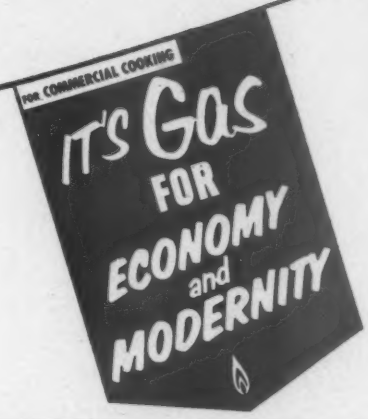
a PAR activity A new comprehensive program has been developed by the A. G. A. promotional staff for the PEP Commercial Gas Cooking Sales Campaign to be conducted during September, October, November.

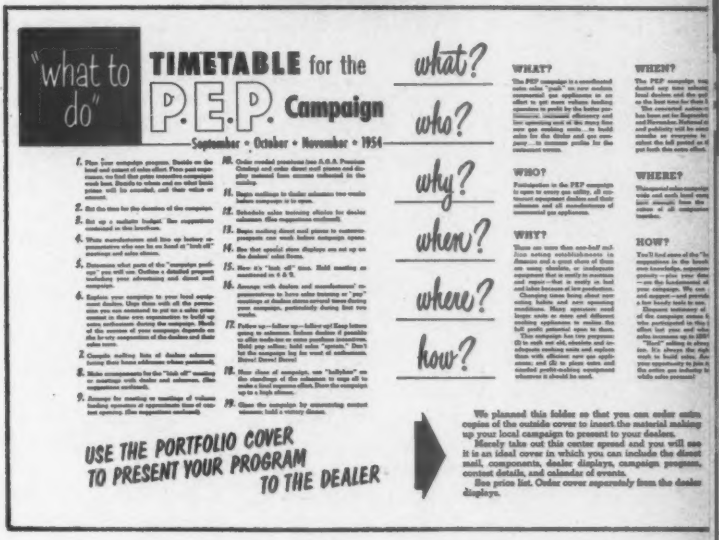
The PEP program (standing for Performance, Economy and Profit) is now a promotional institution of the industry because of the sales successes of the many members who participated in the project in the fall of 1953.

A complete campaign brochure outlining the program, the activities, planning and timing as well as containing samples of the sales literature components is being mailed to industry members and gas appliance manufacturers in ample time to permit members to coordinate this sales

motional package are being readied
ing sales campaign







activity with other planned promotional efforts.

The brochure details the "What", "When", "Where", "Who" and "Why" of the campaign with step-by-step details of procedure. It has been designed so that individual members can follow the program either wholly or in part—and tailor their own activity to meet their individual budget.

The program is designed to unite the sales efforts of equipment dealer, appliance manufacturer and gas company to replace obsolete and inefficient cooking units with new, automatic gas appliances showing greater production and higher operating efficiency.

Manufacturer and dealer authorities now agree that in order to maintain sales levels of the past it is necessary to place selling emphasis on replacements. This, then, attunes the PEP campaign with their thinking. To the utility it offers: 1, closer working relationships with equipment dealers; 2, insurance against loss to competition; 3, better equipment on its lines requiring less service; 4, better trained salesmen; and 5, a higher level of sales activity.

Illustrated above are the campaign brochure or portfolio and various dealer displays. Not shown, but available in the campaign "package" will be a series of letters for mailing to prospects, dealers and dealer salesmen. Also available will be samples of direct mail folders, broadsides and cards plus a list of suggested A. G. A. promotional folders, booklets and sales aids. A complete plan for conducting an "Oldest Appliance Contest" will be given, including samples of letters, rules, contest blanks, etc.

An announcement of the new forthcoming PEP campaign would be incomplete without reporting on the success of those companies who conducted 1953 PEP campaigns. Altogether 75 member companies, representing 50 percent of the meters of A. G. A. members conducted PEP campaigns. Some participated only to a modified extent yet inquiries directed to those who conducted vigorous campaigns revealed most had recorded sales increases of from 25 to 125 percent over sales during the same period the previous year.

The pattern for building sales effort, sales enthusiasm—and sales—on commercial gas cooking is in the PEP campaign. Plan to be among those aggressive companies who will join up in this worthy industrywide sales and promotional project this fall.

To press commercial water heating sales, education

Working hard at Kellogg Center, Michigan State College, are members of water heating subcommittee of A. G. A. Food Service Equipment Committee. They are planning sales program

The success of the A. G. A. Commercial Water Heating Sales Campaign, conducted during February, March and April, has brought to sharp focus the potential the gas industry has in developing the profitable volume water heating load in food service establishments by selling the theme, "Enough Hot Water—Hot Enough". Quick spot canvasses indicate a large portion of restaurants still do not have adequate water heating systems to provide enough hot water to meet minimum sanitation requirements.

The A. G. A. promotion program also brought out the urgent need for technical and sales education of plumbers, plumbing supply salesmen and mechanical dishwashing equipment salesmen as well as many commercial gas sales representatives to insure proper calculation of requirements and proper sizing and correct location of heating equipment. Repeated instances have been found of installations of automatic dishwashing equipment by plumbers or dealers without providing an adequate supply of hot water.

In addition, the restaurant operator's lack of knowledge of his requirements and his inability to select equipment to adequately meet his requirements were aggravated by the commercial salesman's lack of knowledge of the procedure to follow in calculating requirements and sizing equipment.

To seek means to remedy these conditions and to further the progress of the industry's water heating promotion program, the Water Heating Subcommittee of the A. G. A. Food Service Equipment Committee met at Kellogg Center, Michigan State College, East Lansing, Michigan, June 8 and 9, to organize a commercial water heating sales and educational program.

Besides members of the committee, in attendance were representatives of the trade papers in the hotel, restaurant and institutional fields, National Sanitation Foundation, manufacturers of water heaters, manufacturers of dishwashing equipment and members of the faculty of Michigan State College.

A program was proposed that would embrace: 1, education of restaurant operators in the purchase of adequately sized water heating systems to meet minimum sanitation requirements; 2, education of plumbing supply dealers, plumbing contractors and their salesmen to enable them to calculate hot water requirements and size equipment; and 3, education of food service equipment dealers and their salesmen on the sale of mechanical dishwashers and sizing water heating equipment for such installations.

It was proposed that educational material be developed that could be placed in the hands of local gas utilities to enable them to conduct educational and sales training clinics with the assistance of health authorities and sales executives of the manufacturers of both dishwashing and water heating equipment.

Assignments were given for the preparation of component details of the sales and educational manuals, brochures, case histories, etc. and it is expected at a meeting scheduled for September that sufficient progress will have been made for the A. G. A. staff to complete the project in time to incorporate it in the Commercial Water Heating Sales Campaign next February, March and April.

Reviews need for "firm" industrial gas sales

Industry Needs Firm Gas" is the title of a paper presented by Ralph L. Manier at the Section's sales conference in April. The Industrial Gas Study Subcommittee of which Mr. Manier is chairman met in May to further review this need and the problem involved in supplying firm gas for certain industrial operations.

It has been the feeling of many industrial gas men that where gas is an absolutely essential fuel for an industrial heat processing operation it should be sold on firm contract regardless of the size of the load. Countering this opinion there has been reported a trend to sell all industrial gas on an interruptible contract.

The basic problem seems to be that the gas industry is not generally aware of the specialized equipment designed for gas only in use for the many refined industrial gas applications prevailing today. The important factors in the problem are that while the line between firm and interruptible gas is a matter of quantity, there are industrial processes for which gas cannot be shut off regardless of the quantity because no standby fuel or equipment can be provided.

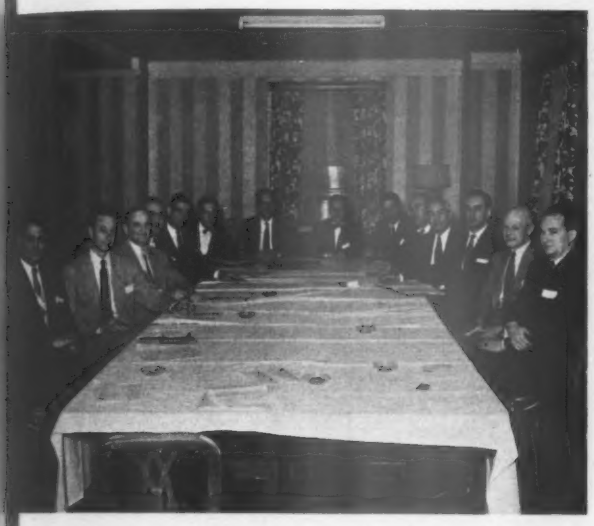
Frederic O. Hess, president of Selas Corporation of America, made a plea for a firm supply of gas as an indispensable precision tool of modern industry to the A. G. A. Board of Directors and his plea was brought to the attention of the Gas Industry Development Committee. Some members of that committee felt that the problem is not national. Careful analysis by the Industrial Gas Study Subcommittee, however, has shown that it is a nationwide problem.

The Managing Committee therefore

(Continued on page 60)

● *Technical advances outlined at Operating Section's Chemical, Engineering and Manufactured Gas Production Conference in Pittsburgh*

Chemical, production men confer



Men who will serve as next year's chairmen of several Operating Section committees meet at Pittsburgh to discuss plans and responsibilities

Activities and plans are reviewed by Section's Managing Committee. At head of table is Section Chairman F. J. Pfluke, Rochester Gas & Electric

Fears that any problems seriously threaten the future of the gas industry were dissipated at the Chemical, Engineering and Manufactured Gas Production Conference sponsored by the Operating Section of the American Gas Association at the William Penn Hotel, Pittsburgh, May 24-26.

Nearly 400 delegates participated in a series of general sessions, luncheon conferences and panel discussions at the three-day meeting. Technical advances, research developments, improved production methods and safety progress were a few of the subjects covered that brought increased faith in their industry to this group of technicians largely responsible for the gas service to the nation's 27,000,000 customers.

The delegates were welcomed by A. B. Lauderbaugh, The Manufacturers Light and Heat Co., Pittsburgh, as chairman of the A. G. A. Chemical and Engineering Committee. He outlined the program for the three days. F. J. Pfluke, Rochester (N. Y.) Gas & Electric Corp., chairman of the A. G. A. Operating Section, stressed the importance of the role the Operating Section is playing in gas industry affairs, particularly under the Gas Industry Development Program and the PAR Plan.

He reminded his audience of the severe inroads being made by electric competition, not only in the kitchen, but also in fields of air conditioning and space heating.

Karl B. Nagler, The Peoples Gas Light & Coke Company, Chicago, pointed out that many of the problems outlined by Mr. Pfluke were not new. He quoted publications back in 1887 stating the gas industry faced similar competition nearly a century ago. He told of advances made in the art of distribution of gas and emphasized the need for more profitable "valley" loads. Enormous sendouts without profit fail to help either the utility or the investor, he declared. Unorthodox thinking might help solve some of the problems, Mr. Nagler said.

Interesting papers on testing for corrosion, gas odor testing and production of natural gas substitutes were presented by Frank E. Costanzo, The Manufacturers Light & Heat; Ralph L. Coryell, Consolidated Edison of New York, and an Institute of Gas Technology group, headed by H. R. Linden and E. S. Pettyjohn. T. M. Gilbert, Cutler-Hammer, Inc., New York presented a report of the Builders Subcommittee.

(L. to r.) Speakers C. F. DeMay, Columbia Gas, and G. F. Dormer, Manufacturers Light and Heat, with A. B. Lauderbaugh, first session chairman

Officers of Operating Section, sponsor of conference, are (l. to r.) J. H. Collins, W. H. Davidson, J. W. Carroll and Frederick J. Pl

Research was the major topic of the Monday afternoon session. T. L. Robey, coordinator of research, A. G. A., briefly highlighted the PAR-sponsored research program. He illustrated some new gas range principles that had been developed at the A. G. A. Laboratories. Research projects devoted to improvements in gas incineration and air-conditioning were described.

Delegates were briefed on 54 research projects now under way at the A. G. A. Laboratories, the Institute of Gas Technology and other research institutions such as Case Institute, University of Illinois, Purdue University, Selas Corp., Arthur D. Little, Inc., U. S. Bureau of Mines, Consolidated Gas Electric Light & Power Company of Baltimore, National Bureau of Standards, Surface Combustion Corp., Battelle Memorial Institute, University of West Virginia, and through cooperating committees of the American Society of Mechanical Engineers and American Standards Association.

Progress and development reports on many of these projects were presented by staff members of the Institute of Gas Technology. T. F. Loughry, of Surface Combustion Corporation, Toledo, Ohio reported on High Btu Gas research.

Parallel sessions of the Chemical and Production groups were held Tuesday, with Mr. Lauderbaugh presiding at the chemical meeting and J. W. Carroll, Philadelphia Electric Company, chairman of the Manufactured Gas Production Committee presiding at the other meeting. C. F. de May, Columbia Gas System Service Corporation, New York brought delegates up to date on the work being done to revise codes for pressure piping.

Tuesday afternoon delegates attended luncheon conferences devoted to five different topics. These were Carbonization and Coke; Use and Handling of LP Gases; Quality Control; Odorization of Gas; and Large Volume Gas Measurement. The respective conferences were headed by Michael Perch, Koppers Company, S. C. Symnoski, Philadelphia Gas Works; D. L. White, Washington Gas Light Company; Paul L. Covell, Minneapolis Gas Company and R. J. Ott, Philadelphia Gas Works Div. of U.G.I.

The meeting Wednesday morning was devoted to engineering and chemical problems pertaining to manufactured gas production. The final luncheon conferences covered High Btu Gas, Low Btu Gas, Plant Waste Disposal and Chemical topics. The presiding officers at these were respectively: John O. Sholar, South Carolina Electric & Gas Company, Columbia; H. T. Maloney, Philadelphia Gas Works; Dominic F. Cundari, Public Service Electric & Gas Company, Newark, N. J.; and I. B. Dick, Consolidated Edison Company of New York.

It was announced that the 1955 Chemical, Engineering and Manufactured Gas Production Conference will be held at the Hotel New Yorker, New York City, May 23-25.

Chairmen's summaries of Pittsburgh luncheon conferences

Quality control

The first luncheon conference held to discuss Quality Control was one of the most popular Tuesday conference luncheons, attracting over 80 participants. The control of heating value, burning characteristics, oil fogging, suspended material and other aspects of distributed gas quality were discussed, with D. L. White, Washington Gas Light Co., presiding and leading the discussion concerning high pressure propane-air.

W. E. Russell, Consolidated Gas Electric Light and Power Co., led the discussion concerning the uses of high Btu. oil gas, particularly as a replacement for natural gas.

The problems relating to multicomponent systems supplying mixed gas for the base load were discussed by Edward Layman, Philadelphia Electric Company. A discussion of the control of quality as it concerned modified natural gas and oil gas was led by W. H. Isaacs of The Peoples Gas Light and Coke Company. R. M. Pearson, Michigan Consolidated Gas Co., completed the panel by relating many of the straight natural gas companies' problems.

The meeting gave a definite indication that the desire, duty and responsibility to supply gas of the very best quality possible is necessary if we expect to keep ahead of our competition. The discussion brought out many of the ways in which to improve the quality of gas, thereby insuring more trouble-free services from gas appliances.

High Btu

A great deal of interest in the conference subjects was displayed at the meet-

(Continued on page 59)

● *Scenes below reflect varied activities and interests of technical men gathered at A. G. A. Chemical, Engineering and Production meeting*

J. O. Sholar, South Carolina Electric & Gas Co., opens High Btu luncheon conference at Hotel William Penn. Peak shaving was major discussion topic

Panel on use of LP gases included a nationwide group of LP-Gas experts. S. C. Symnoski presided at luncheon conference, assisted by W. H. Krame

R. J. Ott, Philadelphia Gas Works, served as panel moderator at Large Volume Gas Measurement luncheon conference. R. W. Welch and C. H. Whitwell assisted

Moderator of panel discussion on odorization of gas was Paul L. Covell (fo left). More than 50 persons listened to variety of reports on odorization tes

Speakers at Low Btu luncheon included (l. to r.) H. A. Dirksen, Institute of Gas Technology; H. T. Maloney and H. T. Jayne, both of Philadelphia Gas Works

Ready to open Chemical luncheon conference are discussion leaders abov I. B. Dick (center), Consolidated Edison of New York, acted as chairma

Television and selling principles are topics of speakers (l. to r.): A. B. Modell and Carl V. Haecker

Conference Chairman John B. Frost, left, Brooklyn Union Gas Co., chats with speaker, James F. Oates, Jr., The Peoples Gas Light & Coke Co., Chicago

Program Headliners (l. to r.): Christy Payne, Jr., Pittsburgh; Hugh L. Wathen, Atlantic City; and Henry Rohrs, Elizabeth, N. J.

Stir sales enthusiasm at NY-NJ

It's time for in-fighting in the battle of the fuels. Aggressive, solid-punching sales promotion is needed to win the fight for the gas industry.

This message was stressed in a variety of ways during the annual New York-New Jersey Regional Gas Sales Conference, held June 21-22, at the Monmouth Hotel, Spring Lake, New Jersey. More than 150 registered delegates in attendance heard every speaker call for action to stem the onslaught which threatens to overwhelm gas appliance sales.

Sponsored by the Residential Gas Section, American Gas Association, the meeting brought out many constructive suggestions to bolster lagging sales. Strong support, particularly, was urged for the PAR and Gas Industry Development Programs.

John B. Frost, manager of new business, The Brooklyn Union Gas Co., chairman of the conference, in his opening remarks called attention to the public's buying lethargy despite record levels of spendable income. He urged more promotional support for dealers, who make 85 percent of all gas appliance sales.

Featured speaker at the first morning session was James F. Oates, Jr., chairman and chief executive officer, The Peoples Gas Light & Coke Co., Chicago, and chairman, A. G. A. PAR Committee. While expressing complete faith in the future of gas as a preferred fuel, Mr. Oates called for all elements of the industry to accept the responsibility for sales leadership. He cited the record levels of gas sales, growth of the industry's assets, and other evidence of past progress. "But," he cautioned, "this is past and we now need forthright action to reverse present trends in appliance sales."

The gas industry, Mr. Oates declared, "must look at all the facts with no sense of delusion. With 16 million gas ranges on our lines over ten years old, our kitchen load is vulnerable." Urging support for PAR and other industry programs, he stressed the need for more action and less talk.

A bright star on the horizon, Mr.

Willard C. Wolf, Bryant Heater Div., Affiliated Gas Equipment Inc., urges more aggressive gas househeating promotion

Frank McFerran, general sales manager, Ruud Manufacturing Co., and Dorothy Shank, associate editor, What's New in Home Economics, present convincing gas water heater promotion

W. L. Hayes, Minneapolis, stresses need for "in-fighting" in battle of fuels, before N. Y.-N. J. Gas Sales Conference

Oates continued, is the trend of all segments of the gas industry toward increased cooperation and better understanding of their interdependence. In conclusion, Mr. Oates described the efforts of his company to increase gas appliance sales in Chicago. While the utility creates the sales climate and sets the standards, every effort, he said, is made to aid dealers in making sales.

Television is the weak link in the gas industry merchandising program, according to the next speaker, Arthur B. Modell, vice-president, L. H. Hartman Co., Inc., New York. While the electric appliance industry has a number of highly popular night-time shows such as Studio One, "there is not a single night-time program sponsored by the gas industry," he said.

Mr. Modell pointed out the good results secured from the program, "Operation Blue Flame," sponsored by Caloric Stove Corp., but asserted that the gas industry "even in the broadest sense is only dabbling in television."

The gas utilities must promote house heating more aggressively if they want to develop this valuable load, Willard C. Wolf, Bryant Heater Division, Affiliated Gas Equipment, Inc., told the delegates. "Simply converting to natural gas, will not replace sales effort," he said, adding that utilities must provide sales leadership for the dealers. Neither manufacturers nor dealers can assume responsibility for originating gas house heating sales during the development period, he continued.

A list of "do's" and "don'ts" for building adequate house heating sales volume was offered by Mr. Wolf. On the negative side, he cautioned the companies not to give up good service and not to sell "cheap" equipment. His constructive suggestions included: get a sound rate structure; sell management; provide adequate salesmen's compensation; offer a budget payment plan to customers; and go after new home market.

The first session closed with a stirring address on the principles of successful selling by Carl V. Haecker, merchandise display manager, Radio Corporation of America. Opening the second session, H. Preston Morehouse, Public Service Electric and Gas Co., as chairman presented the report of the Nominating Committee. Henry Rohrs, vice-president, Elizabeth Consolidated Gas Co., Elizabeth, N. J., was elected chairman of the New York-New Jersey Regional Gas Sales Conference. Other members of the council were elected as follows: A. J. Hartman, Consolidated Edison Co. of New York, Inc., vice-chairman; L. G. Paulding, Long Island Lighting Co.; and Howard Niles, Public Service Electric and Gas Co., Newark.

Christy Payne, Jr., vice-president, Peoples Natural Gas Co., Pittsburgh, and member A. G. A. Gas Industry Development Committee, reported on results of surveys sponsored by GAMA of the ten test cities in the development program.

As the results become available, Mr. Payne said, each participating company in the ten test cities is taking concrete steps to counteract adverse trends. He

(Continued on page 64)

Rate book review

(Continued from page 18)

knows that in this book he can expect to find a full, orderly and logical treatment of the subject at hand and a presentation so simple and readable that it is a joy to study.

In reviewing the selection and presentation of the material used, this analyst finds that Mr. Welch's views are entirely objective and he has refrained from controversial discussions of extremely volatile subjects.

As one would expect, the writer covers the most important points on the subject early in his appraisal of proper procedure. For instance, his first chapter deals with the progenital stage of the utility rate case emphasizing the necessity for continuous scrutiny of a utility's operations, the flagging of adverse trends and the timely decision for taking the necessary steps to remedy an approaching bad situation.

Other major topics have to do with, one, the importance of a public relations program designed to offset any adverse reaction to a rate case; two, the selection and function of counsel charged with the duty of directing and presenting the case before the commission or the court, and, three, the necessity for a carefully laid strategy before preparation of the case. Mr. Welch points out the different ways in which utilities have approached the more or less disagreeable chore of trying to obtain higher rates and the different manners in which they handle their public relations, prepare their cases and present them for commission consideration.

Mr. Welch's quotation of former Chairman Doerfer of the Wisconsin Public Service Commission that "A democratic government has no greater enemy than an uninformed public," is very appropriate. So is his observation that public relations for the rate case can not be conducted as a thing separate and apart from normal long range public relations programs. The most effective public relations program in a critical period is the use of good relations which already exist. The important features in maintaining good relations with the community are continued good service and well informed customers and employees.

Institutional advertising

Whether or not there should be additional publicity or institutional advertising at the time of the rate case depends upon the local atmosphere. If the utility enjoys good customer relations and its consuming public understands some of the company's problems as related from time to time through the normal public relations function, it may not be necessary to "build up" the application for rate increases beyond the point of keeping the customers adequately informed.

This critic must agree with everything said by Mr. Welch concerning the necessity of having good attorneys handling rate cases. This reviewer's several years experience on the staff of a state utilities commission was enough to form a conclusion that the rate case lawyer is a specialist and that counsel for the many Utilities who appeared before that commission certainly were not equipped to present a good case.

Prior to 1947 very few utilities had sufficient experience in rate case presentation to have had lawyers adequately trained to handle the important cases which have come to pass in the last few years. However, many lawyers have a bent for this type of practice and under pressure soon became extremely capable; others have specialized in this phase of law and have qualified admirably.

The author points out the need for maintaining good relations between counsel and commission and the importance of being tactful in making a presentation before the members of the regulatory body. Sometimes it is necessary to engage outside talent for this purpose particularly where local color is desirable. He also points out that the main function of the attorney is the presentation of a rate case or making a sale, so to speak, to the commission or to the courts, as the case may be. He makes the distinction between this function and that of operating, which falls within the category of management.

With respect to the strategy of a rate case, it is important that the over-all plan be carefully arranged before data are prepared and before the proposed tactics of presentation are outlined. The author emphasizes the conservative principle of preparing every rate case for presentation to the commission as if it were expected to be appealed to the courts.

It is at the point of determination of strategy that the utility should determine how long it can survive without higher rates and as to whether it would be in a better position to strive for an amount which it feels could be obtained readily and within a short space of time or whether it should battle for principles which will take it to court, but which ultimately may result in greater increases. The need for current financing and procurement of cash to maintain a liquid position have much to do with the kind of decision made.

The author discusses the practical rather than the theoretical aspects of original cost versus cost of reproduction and makes this statement:

"Such a concept would seem to suggest that both the utility companies and regulatory authorities must start thinking in terms of present current cost of service capacity during the period under review without *arbitrary adherence to case law procedure built up during a period of deflationary or more stable dollar purchasing power.*" (My emphasis—C. M. T.)

What Mr. Welch appears to mean is that regardless of changed conditions in our economy some commissions continue to predicate their decisions upon outmoded formulae merely because their predecessors had established a procedure during its early history. In other words if it were good enough for grandpa, it is good enough for us. In further regard to present day value, the author points out that price trending is at least as accurate, far less costly, and more expeditious than the price-inventory method of determining reproduction cost new. Such methods have become much more the practice since World War II.

Mr. Welch takes the laymen through a complete development of rate base which is to be prepared for presentation in a rate case and discusses briefly the various items which must be added to the physical plant before the final rate base is established. He presents a good discussion on the depreciation theories and touches on their practical effects. With regard to working capital the author points out the necessity for larger cash outlays when the company operates on a bi-monthly billing basis and indicates that there is a tendency on the part of utility management to understate working capital requirements because of a hesitancy to seek an allowance which will fully cover amounts needed for various deposits or contingencies.

This critic believes that the author's suggestion that a 90-day coal supply includable in working capital is considerably under a practical amount. In this day of strikes in mines, railways and river transportation to say nothing of severe weather and frozen water ways, some utilities consider 150 days as a practical minimum supply.

Automatic adjustments

The author touches on "automatic adjustments" in his Chapter XIII on operating expenses, but limits his discussion to the fuel clause as it pertains to industrial electric service. The use of adjustment clauses has gone far beyond this application. Many companies have broadened the use of the fuel adjustment to include all classes of service—even that of residential. Some regulatory authorities believe it only to be fair that all customers contribute to increased fuel costs and receive the benefit of any lowering of coal price. In this day of machine billing the mechanics of applying escalation to customer accounts offers no problem.

In addition, the city gate adjustment for purchased gas costs has been found acceptable before many commissions and is now in common use. Beyond these fuel components is the all-expense escalators used by a few utilities so that rates automatically move upward or downward with changes in cost of fuel, labor and taxes. In these instances the regulatory authorities retain their jurisdiction and periodically review the base under which the adjustments apply.

The author's best chapter, perhaps, is that on rate of return beginning on page 254. He presents good argument for a rate of return that permits the utility to meet competition in current money markets and is not tied to precedent of other eras.

In summary the text as a whole should serve as an excellent reference to anyone concerned with the preparation of a utility rate case. The author, without going into a great deal of detail, has presented an excellent line of procedure for the handling of the case and he has posed many of the questions that are likely to present themselves during the processing of the case. Thoroughness is stressed throughout the text and consideration before action is the thesis.

The text should serve to improve the technique of handling rate cases on behalf of the utility, since a case prepared with all of the thoughts in mind that are presented by the author would be thorough and complete beyond a point of question. What is more, the case should be quickly and easily handled by the commission and staff because the presentation would be orderly and the claims well founded and proven.

A salute to Mr. Welch, and a vote of thanks for his fine contribution to our industry. We are looking forward to his next work on the conduct and trial of the rate case.

Industry news

FPC approves Natural gas For Pacific Northwest

WITH FEDERAL Power Commission approval of Pacific Northwest Pipeline Corporation's plans to bring natural gas from the San Juan basin to the Pacific Northwest, it appears that the way has been cleared to serve another vast territory with this premium fuel.

C. R. Williams, Pacific Northwest president, said in a statement following the FPC decision that his company expects to be serving distribution companies by late 1955.

The project involves a 1,466-mile pipeline from gas fields in the "Four Corners" to Bellingham, Washington. It would cost initially an estimated $160,000,000. Service would be provided communities in Washington, Oregon, Idaho, Utah, Colorado and Wyoming.

The Commission also authorized Colorado Interstate Gas Co., Colorado Springs, Colo., to build a pipeline to carry gas received from Pacific Northwest to market areas in Colorado and Wyoming.

Permission to pipe gas into the Northwest states also has been sought by Westcoast Transmission Co., Inc., Trans-Northwest Gas Co., and Northwest Natural Gas Company. Each of these three proposed to import natural gas from Canada.

In approving the Pacific Northwest application, the Commission rejected a recommendation of its staff counsel that none of the applications be granted.

Spokesman for California gas distributors and communities also had opposed Pacific's proposal, contending the San Juan gas reserves should be held to meet that state's future needs.

The Commission said the area and population to be served through Pacific's project "greatly exceeds those proposed to be served by Westcoast, Inc., and Trans-Northwest Gas."

It noted Pacific's proposed system "traverses at least three large undeveloped sedimentary basins in Colorado, Utah and Wyoming, the exploration and development of which would be stimulated by providing an outlet for natural gas."

The Commission questioned feasibility of the Westcoast and Trans-Northwest projects. It said since the areas to be served by Pacific in Washington and Oregon would be largely duplicated by the two other projects, the applications are mutually exclusive.

Westcoast announced plans to appeal the FPC refusal of the company's proposal to supply gas from the Peace River area in Canada.

Schedule first management section annual conference

THE GENERAL Management Section of the American Gas Association will hold its first annual spring conference early next year. Howard B. Noyes, senior vice-president, Washington Gas Light Co., and chairman, A. G. A. General Management Section, has announced the appointment of an Arrangements Committee to plan the program for the initial meeting of the section.

W. B. Tippy, vice-president, Commonwealth Services, Inc., New York, will serve as chairman of the Arrangements Committee. He will be assisted by John H. Carson, vice-president, The East Ohio Gas Co., Cleveland; Leslie A. Brandt, vice-president, The Peoples Gas Light & Coke Co., Chicago; Elmer L. Ramsey, assistant vice-president, Laclede Gas Co., St. Louis; and Lester J. Eck, vice-president, Minneapolis Gas Company.

The General Management Section is a new section created within A. G. A. to deal with all matters of a management nature. The Board of Directors of A. G. A. at its last meeting approved the request of the section's Managing Committee to hold an annual spring conference.

Several committees within the section had scheduled meetings for next spring, Mr. Noyes pointed out. These meetings will now be incorporated with the spring conference.

Caloric wins business advertising prize

CALORIC STOVE Corporation has been honored with first prize in its division in the Fifth Annual Competition for the Most Effective Use of Advertising in Merchandising Publications. The competition is run by the Associated Business Publications Group.

The award was presented for a four-color spread in the September 28, 1953 issue of *Time* Magazine, which was aimed at selling gas as a cooking fuel. The advertisement was part of a four-page insert in the October issue of *Electrical Merchandising* magazine.

CGA meets in Banff

THE CANADIAN Gas Association has now come of age, a business organization prepared to do a job on behalf of one of the country's major industries. D. K. Yorath, Northwestern Utilities, Ltd., president of CGA, stressed this forward-looking idea at the group's 47th annual convention in Banff, June 20-24.

The theme of the meeting, "Natural Gas for All Canada" was echoed in convention speeches by such industry leaders as E. H. Eacker, president of American Gas Association and of Boston Consolidated Gas Co., and W. C. Mainwaring, president of Pacific Coast Gas Association and of British Columbia Electric Co., Ltd.

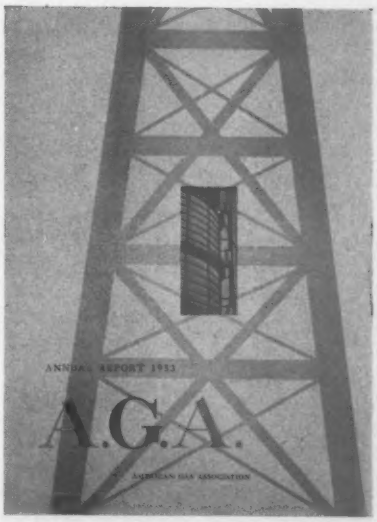
New officers elected during the sessions are: S. B. Severson, chairman of board, Dominion Natural Gas Co., Ltd., Buffalo, N. Y., president; P. W. Geldard, engineer of distribution, Consumers Gas Company of Toronto, first vice-president; F. R. Palin, comptroller, secretary and treasurer, Union Gas Company of Canada, Chatham, Ont., second vice-president and Warner A. Higgins, Toronto, secretary and treasurer.

A. G. A. annual report reflects year of progress

A PICTURE of local utilities across the country snapping to attention under the impact of the Gas Industry Development Program is portrayed in American Gas Association's 1953 annual report. The 32-page report, issued to member companies and individual members, graphically and artistically sets forth the Association's achievements under the leadership of Frank C. Smith, president of Houston Natural Gas Corp., and 1953 president of A. G. A.

In his introductory message in the report, Mr. Smith points out that the major objective of the Association during his term was to marshal the industry's full strength and to apply that combined force toward accomplishing its goals.

Service is the major purpose of A. G. A. The 1953 report is directed at informing member companies and individual members of the activities of A. G. A. and its staff to help them. The report is a record of the growth and progress of the gas industry as measured through the efforts of the American Gas Association.



GAMA elects Arden president at annual meeting in Chicago

T. T. ARDEN of Lynwood, Calif. was elected president of the Gas Appliance Manufacturers Association at the trade group's recent 19th annual meeting held in Chicago.

Mr. Arden, now serving as first vice-president of GAMA, will succeed Sheldon Coleman, president, The Coleman Co., Wichita, as the association's chief officer next October when the entire new slate of officers, division and group chairmen and vice-chairmen will assume their duties.

Mr. Arden is executive vice-president of the Grayson Controls division of Robertshaw-Fulton Controls Company.

Also elected to GAMA office were W. F. Rockwell, Jr., president of the Rockwell Manufacturing Co., Pittsburgh, first vice-president; and A. B. Cameron, president of the Ruud Manufacturing Co., Pittsburgh, second vice-president.

Lyle C. Harvey, president of Affiliated Gas Equipment, Inc., Cleveland, was re-elected treasurer. H. Leigh Whitelaw of New York will continue as managing director of the association.

During the meeting, the 315 registrants unanimously approved a resolution condemning the Hunt Bill, now before the U. S. Senate Commerce Subcommittee, that would prevent the expansion of the natural gas pipeline into the Northwest, the one section of the country that does not have access to this fuel.

In his convention address, President Sheldon Coleman declared that the outlook for the sale of gas appliances was never better. The fact that pipeline construction is scheduled to continue at a rate in excess of a billion a year through 1956, the forecast that utilities will add a million new gas customers annually for the next few years, and the boom in the home modernization market were among the reasons he cited.

He said that many of the delegates he talked to were optimistic over sales potentials despite a slow first-quarter start because they intended to balance this by increasing their advertising and promotional activity at the local level.

However, he warned the group in his keynote address that the gas appliance business must undergo some self-improvement. He pointed out that the profit margin for industry as a whole is five percent while for the gas appliance industry it is only two and one half to three percent. Mr. Coleman said it is in this area that the industry should concentrate its efforts at improvement.

Later during the convention, Mr. Harvey, who also serves as chairman of the GAMA Gas Industry Development Committee, took some manufacturers to task for their apathy towards the "10-City Demonstration Program" —a pilot operation of the GID plan now being conducted in ten scattered communities— and reminded the members that all have a stake in the outcome of this experiment.

The board of directors approved the formation of four new divisions—gas furnace division, recessed heater and floor furnace division, gas boiler division, and gas conversion burner division—at the first of two board meetings. All members of the four new divisions formerly were members of the gas house-heating and air conditioning equipment division.

All division chairmen will become members of GAMA's board of directors.

Division and group officers elected are:

Automatic controls division, Frank H. Post, Robertshaw-Fulton Controls Co., chairman; direct heating equipment division, R. H. Norris, Dearborn Stove Co., chairman; unit heater group, David R. Webster, Reznor Manufacturing Co., chairman; domestic gas range division, E. Carl Sorby, Geo. D. Roper Corp., chairman; gas appliance regulator division, Frank Kern, Jr., Maxitrol Co., chairman; gas boiler division, N. E. Westphal of Weil-McLain Co., chairman; gas clothes dryer division, John Christensen, Hamilton Manufacturing Co., chairman; gas conversion burner division, E. P. Hayes, chairman.

Gas engine compressor division, A. M. Buxton, The Cooper-Bessemer Corp., chairman; gas furnace division, G. W. Denges, Williamson Heater Co., chairman; gas incinerator division, Harry Martens, Calcinator Corp., chairman; gas meter and regulator division, Gilbert T. Bowman, Rockwell Manufacturing Co., chairman; gas valve division, F. W. Schmidt, Roberts Brass Manufacturing Co., chairman; gas water heater division, H. B. Carbon, Bastian-Morley Co., Inc., chairman; hotel, restaurant and commercial gas equipment division, W. M. Smock, Vulcan-Hart Manufacturing Co., chairman; industrial gas equipment division, James H. Sands, Eclipse Fuel Engineering Co., chairman.

Recessed heater and floor furnace division, Ralph E. Solomon, Samuel Stamping and Enameling Co., chairman; gas refrigerator division, Louis Ruthenburg, Servel, Inc., chairman; relief valve division, E. F. Kurtz, Metal and Controls Corp., chairman.

Supreme Court decides Phillips is "natural gas company"

THE AMERICAN Gas Association's Information Service Letter No. 52 highlights the important facts of the Phillips Petroleum Company case.

The letter discusses the United States Supreme Court decision on June 7, which held that Phillips is a "natural gas company" and as such is subject to Federal Power Commission regulation. This will be true for all independent producers of natural gas. A. G. A.'s Information Letter Number 48 of April 15, 1954, gives complete background of this case.

The majority opinion, written by Justice Minton, recites "that the legislative history indicates a congressional intent to give the Commission jurisdiction over the rates of all wholesales of natural gas in interstate commerce, whether by a pipeline company or not and whether occurring before, during or after transmission by an interstate pipeline company."

Justices Black, Reed and Warren concurred with Justice Minton. Justice Frankfurter concurred in a separate opinion, while Burton and Clark dissented.

Justice Jackson took no part in the Supreme Court hearings and decisions.

Annual reports show growth of two companies

IN ADDITION to the annual reports which have been summarized during the last few issues, the MONTHLY reviews the following:

• **Electric Bond and Share Company** reports a net income of $7,264,211, an increase of 31 percent over 1952. Its earnings in 1953, while below the 1952 peak exceeded $3,400,000.

• **New England Electric System,** after a successful year in 1953 is looking forward to a prosperous 1954. Natural gas has replaced manufactured gas in practically all the company's territory. Since the changeover, there has been an improvement in earnings and the outlook for further improvement is good. The volume of gas sold was 10.1 percent greater than in the preceding year.

Duke University publishes natural gas legal symposium

THE FORTHCOMING issue of *Law and Contemporary Problems,* a non-profit, educational quarterly publication of the Duke University School of Law, will contain a symposium on the regulation of natural gas.

Included in the symposium are the following: "The Regulation of Natural Gas", Charles E. Crenshaw; "Some Consequences of Fears by Independent Producers of Gas of Federal Regulation", Robert E. Hardwicke; "Natural Gas Supplies for Tomorrow", Rex Bader and Carl Illig; "Phillips and the Natural Gas Act", Bradford Ross and B. A. Foster, Jr.; "Rate Regulation of the Natural Gas Companies by the FPC", Charles I. Francis; "Accounting Aspects of Utility Rate Regulation", Lloyd J. Klein, and "Natural Gas Regulation under the Holding Company Act", Ralph K. Huitt.

Single copies of *Law and Contemporary Problems* can be obtained for two dollars, while yearly subscriptions are available for five dollars. It can be obtained from Duke University School of Law, Durham, N. C.

Develop automatic control for gas range burners and ovens

AN AUTOMATIC TIME control for top burners of gas ranges, named "Potwatcher" and developed by Robertshaw-Fulton Controls Company, has been announced by John A. Robertshaw, president.

The same principle has also been applied to a new time and temperature control for gas ovens under the name, "Temp 'n Time The new oven control, which requires no expensive clock, electrical connections, tubing or other costly installation and design factors, offers gas range manufacturers the opportunity to include this convenience on lower priced ranges for the first time.

A dozen or more leading range manufacturers throughout the country are planning to feature these new devices in their fall lines. The new controls, however, will not be available for attachment to appliances now in use.

The new controls were installed on a number of these ranges for a press and industry showing at the Waldorf-Astoria in New York on June 15. Demonstrations were conducted by home economists of The Brooklyn Union Gas Company under the direction of Ruth Soule, Brooklyn Union home service director.

A similar demonstration was conducted on the same day in Los Angeles at the Ambassador Hotel.

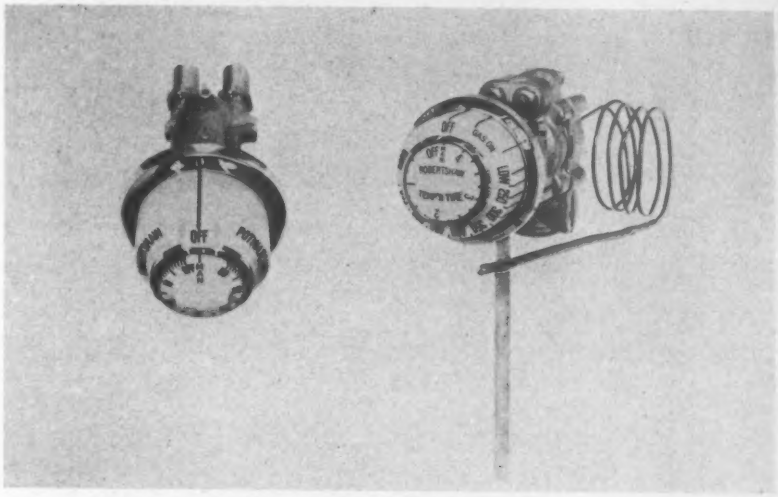
The distinctive feature of the "Potwatcher" and "Temp 'n Time" is found in its unique timing mechanism, which operates with no greater energy source than the movement of an ordinary pocket watch. Enclosed within a small control knob, the entire timing mechanism is replaceable as a unit. A manual position on the control allows it to be used as a conventional hand-operated knob.

The top burner control is designed to time cooking in one minute periods up to one hour. The user simply sets the timer and then adjusts the gas cock for any desired flame height. Both timer and gas cock are combined on one dial, which is about the size of conventional top burner gas cocks now in use. At the end of the automatic cycle, the set handle of the timer will return to the "off" position and the gas will automatically shut off. If the user does not wish to time the cooking cycle, the timer dial is depressed and the indicator turned to the manual position.

The new oven burner control, which can be installed without altering present range designs in any way, times oven cooking periods in 15 minute units up to four hours. Like the "Potwatcher," it is suitable for use with all gases and may be used with or without the timing feature.

According to company estimates, the new controls will materially lower the cost of gas ranges as compared with those equipped with older type timers and temperature controls. This lower cost is made possible by the simplicity in design of both which avoids the use of expensive clocks and complicated installation.

The new controls were invented by Clarence Wantz, a self-schooled designer and engineer, with 40 patented inventions in the controls field to his credit.



Robertshaw Fulton's new automatic time controls feature simple design, economy, easy installation

H. Carl Wolf hails new gas range advance

● The development by Robertshaw-Fulton Controls Company of automatic, all-in-one timers and heat regulators for top burners and ovens of gas ranges marks another forward step in the convenience and flexibility of modern gas appliances.

We consider this to be one of the great advances in gas cooking in recent years.

For the homemaker, it adds a new dimension to the accepted advantages of gas cooking—speed, cleanliness, precise control of heat, and thrift. Now, with these automatic timers, the homemaker can pre-select the cooking interval, set the control, and safely go about her housework while the food is cooking, without worrying about burning or scorching.

For the gas utilities and range manufacturers, the Potwatcher and Temp 'n Time offer new competitive advantages of great value.

The continuing research and development programs of aggressive companies like Robertshaw-Fulton, coupled with the all-inclusive industry-wide research program, are assurances that this progressive industry will serve increasing millions of satisfied customers in the years to come.

PUAA lauds report

THE 1953 ANNUAL Report of the Public Service Electric and Gas Company has been cited as the nation's best utility report. The Newark, N. J. company won the special honors in the Public Utilities Advertising Association's annual Better Copy Contest, competing with the other major utilities which serve more than 400,000 meters.

The PUAA contest is the oldest continuous advertising competition in the country.

IGT publishes new interim report

PRODUCTION OF NATURAL *Gas Substitutes by Pressure Hydrogasification of Oils,* interim report by H. R. Linden, J. J. Guyer and E. S. Pettyjohn, of the Institute of Gas Technology, Chicago, presents the results of a laboratory study of the effects of pressure and feed hydrogen in high-Btu oil gas production.

Three typical gas-making oils: Diesel oil, reduced crude, and Bunker C, were employed in the tests, which were carried out at gasification pressures of one to five atmospheres, cracking temperatures of 1350° to 1550°, residence times of 2.5 to 10.5 seconds, and hydrogen-oil feed ratios of 0 to 90 Scf/gallon.

Data on the substitutability of the gases for high-methane natural gas are reported and burner test results are related to gas composition. These data provide a basis for application of the novel pressure hydrogasification process to the design of plants for the production of complete natural gas substitutes.

Industry legal problems analyzed at five-day symposium

CURRENT LEGAL problems of the gas pipeline and distribution companies were analyzed and discussed by an outstanding array of professional and executive talent at a five-day symposium jointly sponsored by the American Gas Association and the Practicing Law Institute.

The seminar attracted an enrollment of nearly 200 participants, representing federal and state commissions, legal counsel, production, transmission and distribution companies in the gas industry, accountants, allied trade associations and other interested groups.

Nearly 40 qualified experts presented lectures and guided panel discussions during the seminar. Legal, accounting and public utility talent worked hand in hand with representatives of the Federal Power Commission, the Federal Power Bar Association, state commissioners from Georgia, Wisconsin, New Jersey and Illinois.

Also represented were commissioners from Maryland, Massachusetts, North and South Dakota, New York, the State of Washington, Missouri, Kansas and Tennessee. Delegates included representatives of the National Coal Association, the American Institute of Accountants, leading Stock Exchange firms, security analysts, the telephone industry, bankers, oil companies, consultants, geologists and engineering firms.

Topics included field supplies, contracts, conservation orders, certificates, allocations, transportation and underground storage. Delegates received first-hand opinions of the Phillips decision of the U. S. Supreme Court on the day the decision was handed down from Nelson Lee Smith, Federal Power Commissioner, and W. E. Torkelson, chief counsel of the Wisconsin Public Service Commission.

Competitive positions of the coal and railroad industries were discussed in open forum. Rate increases, methods of determining a fair rate of return and gas company financing problems were included in the program. Major problems relating to fair value and economic depreciation, tariffs and service contracts were additional subjects that evoked lively discussions. The final topic on the program was federal legislation, offering a quick summary of several important bills intended to have an important influence on the industry.

A.G.A. to sponsor sixth Accident Prevention Conference

SAFETY AWARDS, films and panel discussions will highlight the sixth annual Accident Prevention Convention of the American Gas Association, September 15-16 at the Bond Hotel, Hartford, Conn. About 300 delegates, from all parts of the United States and Canada, are expected to attend.

The conference is being sponsored by the A. G. A. Accident Prevention Committee whose chairman is Leo Neufer, safety director, The Peoples Natural Gas Co., Pittsburgh.

Thus far 83 gas companies are among those to receive annual accident prevention awards for having reduced their 1953 accident frequency rate 25 percent or more over 1952.

Conference sessions comprise an appraisal of industry safety, cutting accident rates and costs, fleet safety, noise, and fire prevention.

Rocky Mountain group plugs ranges and incinerators

AT A SPRING Style Show on May 25, almost 300 dealers, plumbers, heating contractors, distributors, architects, engineers and utility people gathered in Denver to inspect a display of 1954 model automatic gas ranges and gas-fired incinerators. The show was sponsored by the Rocky Mountain Gas Association.

The principal speaker was J. Robert Cameron, Denver's director of environmental sanitation, who discussed the acute problem of garbage disposal and the gas industry's contribution to cleaner communities—the gas-fired incinerator.

The American Gas Association's Old Stove Round-Up was explained by two utility company employees in typical western cowboy outfits, and A. G. A. souvenirs were given to the guests.

National Safety Council announces annual contest winners

COMPETING against major gas companies from all sections of the United States, The Peoples Natural Gas Co., Pittsburgh, has won first place for its 1953 safety record.

Records of the National Safety Council, sponsor of the annual contest, revealed that Peoples had gained first place ranking in the Group A Gas Division classification with an accident frequency rating of 1.09 for 1953.

Other winners in the nationwide contest, and their 12-month accident frequency rate:

Straight gas companies—Equitable Gas Co., Pittsburgh, 3.61, Group B; Nashville Gas Co., 4.39, Group C; Water and Gas Department, Duluth, Minn., .00, Group D.

Combination gas and electric companies—Consolidated Gas Electric Light and Power Company of Baltimore, Baltimore, Md., 1.71, Group A; Central Illinois Light Co., Peoria, .73, Group B; Interstate Power Co., Dubuque, Iowa, 1.45, Group C; Lake Superior District Power Co., Ashland, Wisc., .00, Group D.

Leo Nuhfer, left, chairman of A. G. A. Accident Prevention Committee and safety director, Peoples Natural Gas Co., Pittsburgh, admires first-place plaque awarded by National Safety Council with Harry Brainerd, executive manager of Western Pennsylvania Safety Council. Peoples competed with major gas utilities from all sections of the U. S. to earn the coveted award, given for lowest accident frequency rating

Phifer publishes "Petroleum Review"

THE *1954 Petroleum Review, Andrews County, Texas,* summarizes each of the 104 oil and gas fields in the area.

The 132-page book includes 51 illustrations and maps showing representative discovery wells. The material is based on hearing files of the Texas Railroad Commission. A bibliography, listing reference books, is an invaluable source of information.

The book is available for $10 per copy from Phifer Petroleum Publications, P.O. 14504, Houston 21.

Bad effects of noise stressed

INDUSTRIAL noise and resulting deafness is one of the most serious environmental health problems that confronts American industry. Thus, gas industry safety men will be interested in a summary of proceedings at a round-table conference of the National Industrial Conference Board which appears in the April, 1954 issue of *Management Record. The Record* is available from NICB, 247 Park Ave., New York 17.

Highlights of cases before Federal Power Commission

Rate cases

● **Atlantic Seaboard Corporation** has proposed a $5.2 million or 14.5 percent annual wholesale rate increase. Atlantic Seaboard said that the new increase is necessary to pass on United Fuel's proposed increase, and because of the new increase in plant. The new rates would affect ten customers in Virginia, West Virginia, Maryland, Pennsylvania and the district of Columbia.

● **Central Kentucky Natural Gas Company** has filed with the FPC a proposed $2.3 million or 12.1 percent annual wholesale rate increase. Central Kentucky based its proposed increase on United Fuel's rate increase proposal. The increase would affect nine customers in Ohio and Kentucky.

● **Commonwealth Natural Gas Company:** The FPC has accepted a settlement of three natural gas rate increase proceedings involving Commonwealth Natural Gas, under which the company will refund a total of $206,000 to five resale customers in Virginia. This sum represents refunds received by Commonwealth by virtue of a prior settlement of rate proceedings involving Atlantic Seaboard Corporation, Commonwealth's supplier. These refunds will be passed on to Commonwealth's customers for the period February 15, 1952 through February 28, 1954. The settlement also requires that Commonwealth must refund for the month of March, 1954, any amounts which it might in the future receive as a result of any FPC order in a pending proceeding involving another proposed increase by Atlantic Seaboard. The proposed settlement covers only the matter of refunds and does not set new rates.

● **Manufacturers Light and Heat Company** has filed a proposed $398,000 or two percent increase in annual wholesale rates with the FPC. Manufacturers is supplied with gas by Tennessee Gas Transmission, United Fuel, Atlantic Seaboard and Hope Natural, all of which have applied for rate increases. Manufacturers' proposed increase would affect 18 customers in New Jersey, Maryland, New York, Ohio, Pennsylvania and West Virginia.

● **New York State Natural Gas Corporation:** The FPC has approved a settlement of two rate proceedings, involving New York State Natural, allowing about half the total of the two proposed wholesale natural gas rate increases which together amounted to $9.3 million. The rates agreed to under the settlement represent an estimated annual increase of approximately $4.7 million. The settlement provides for a six percent rate of return whereas the company had claimed six percent in the first proceeding but 6¾ percent in its second application.

● **Tennessee Gas Transmission Company's** proposed $13.6 million or 10.3 percent, annual wholesale rate increase has been suspended by the FPC. Tennessee had proposed to make the higher rates effective as of June 1. The company based the proposed new rates principally on the higher cost of purchased gas resulting from price redetermination provisions in its gas purchase contracts.

The proposed tariff changes also would result in a shifting of Tennessee's rate zone boundaries, with only four such zones instead of the present five and the establishment of 25 transportation rate zones. As a result, the proposed tariff changes would result in increased rates to some of Tennessee's customers, but would bring about reductions to others.

The FPC has suspended the proposed increases of Hope Natural Gas Company of $2.2 million; Tennessee Natural Gas Lines, Inc., $290,000; East Tennessee Natural Gas, $650,000; and Alabama-Tennessee Natural Gas Co., $107,000. All four companies based their proposed increases largely on the application of Tennessee Gas Transmission Company's rate increase which has been suspended by the FPC.

● **Transcontinental Gas Pipeline Corporation's** proposed $5.7 million wholesale natural gas rate increase has been suspended by the FPC. The increase would affect 50 customers in Alabama, Georgia, South Carolina, North Carolina, Virginia, Pennsylvania, New Jersey and New York. The proposed increase would have gone into effect June 1 if the FPC had not acted.

● **United Fuel Gas Company** has applied to the FPC for a $13.2 million or 19.5 percent per year increase in wholesale natural gas rates. United Fuel said that the proposed higher rates are necessary because of a proposed increase by its supplier, Tennessee Gas Transmission (which filed a proposed $13.6 million increase and which the FPC has subsequently suspended), and because of the higher cost of gas which it will receive from Gulf Interstate Gas Company. United Fuel also cited an increase in its gas plant, including facilities to receive and transport the Gulf Interstate gas.

United Fuel's proposed increase would affect five customers in Ohio, Kentucky, West Virginia and Pennsylvania.

Construction applications

● **El Paso Natural Gas Company** has received FPC approval for the construction

(Continued on next page)

Milwaukee institutes employee training course

UNDER WHAT is believed to be the first company-sponsored employee training program of its kind in the country, the Milwaukee Gas Light Company is giving 167 of its servicemen free technical training at the Milwaukee School of Engineering.

When the men successfully complete the special gas service course, they will become eligible on a seniority basis for a newly created classification of senior serviceman. Sixty positions have been set up in that classification. Only by taking the special technical courses can an employee qualify for the new classification.

The company is paying all costs of the course, including tuition and textbooks. Employees attend school on their own time.

Most of the employees take night classes, although special day courses have been set up for those working night shifts. Some servicemen go to school twice a week, others once. Some will finish their special training in two semesters, others in three or four semesters.

The length of time required to complete a training program depends upon how many courses a serviceman must take. Each man's program has been based upon the results of special tests given recently to the servicemen. The tests, as well as the curriculum, were developed by the Milwaukee School of Engineering staff with the assistance of members of the school's Industrial Advisory Committee. The program was planned by representatives of the local union, the company and the engineering school. The company will accept the certificate without question as evidence that the employee is expert in servicing all types of domestic gas appliances.

Milwaukee servicemen study for better jobs in company-sponsored engineering course

Actually, 43 employees proved in their test that they qualified for senior servicemen. They were given the senior serviceman classification immediately, but are voluntarily attending certain classes in the program because of a desire for even greater proficiency.

Among the subjects being taught are Fundamentals of Gas and Gas Appliance Servicing; DC and AC Electrical Circuits; Refrigeration and Heating Control Systems for Gas Applications.

and operation of a 10¾-inch pipeline approximately 20 miles in length extending from the Saunders Gasoline Plant of Warren Petroleum Company in Lea County, New Mexico to a point of connection with El Paso's existing 30-inch Permian-San Juan Crossover Line in Lea County. Authorization was also granted for the construction of a 330 horsepower compressor station and other appurtenant structures. The estimated cost of the proposed facilities is $694,000 and will enable El Paso to make residue gas from the Saunders Gasoline Plant available to markets and resale customers.

In another decision by the FPC, El Paso Natural Gas Company received authorization to construct 32.5 miles of pipeline which would enable El Paso to purchase and acquire 20 million cubic feet of natural gas daily from Barnhart Hydrocarbon Corporation in Reagan County, Texas. The estimated cost of the construction is $799,000.

● **Kansas-Nebraska Natural Gas Company:** FPC presiding examiner Francis L. Hall has filed a decision, subject to review by the Commission, authorizing Kansas-Nebraska to construct about 40 miles of pipeline, a new 1,200 horsepower compressor station and other appurtenant structures. These facilities will enable the transmission of larger quantities of gas from newly developed fields in the Big Springs, Nebraska and Logan County, Colorado areas, to meet increased demands on the company's system. Most of the facilities have already been constructed pursuant to temporary authorizations granted by the FPC. Total estimated cost of the project is $922,000.

● **Panhandle Eastern Pipeline Company** has applied to the FPC for authorization to construct facilities designed to increase the peak day delivery capacity of its natural gas pipeline system from 970 million to 1.4 billion cubic feet daily.

Panhandle intends to construct 250 miles of additional loop line paralleling sections of its existing system, and install 113,000 horsepower in additional compressor capacity. This project would enable company to increase its main line sales capacity by approximately 255 million cubic feet of gas per day.

The over-all project also would include the development of the Waverly storage field in Morgan County, Illinois, for the underground storage of natural gas. In conjunction with the storage project, Panhandle plans to construct six miles of pipeline, a 4,290 horsepower compressor station, drill 20 wells and other appurtenant features. Peak day deliverability from the storage area would be 200 million cubic feet. In another phase of the proposed project, Panhandle plans to construct 97 miles of lateral lines in order to deliver the additional volumes of gas which would be available as the result of increase in main line capacity and the Waverly Storage Project. Panhandle also plans to construct facilities for the production and gathering of the new gas supply which would be necessary for the proposed increased capacity. The facilities would consist of drilling 80 new wells and construction of 178 miles of gathering lines and the addition of 9,600 horsepower in eight field compressor stations.

The cost of this entire project is estimated at $66.8 million. The companies who would benefit by the proposed expansion program would be East Ohio Gas Company who would receive 100 million cubic feet per day; Ohio Fuel Gas Company, 50 million cubic feet per day; Michigan Gas Storage Company, 60 million cubic feet. The remaining quantities of main line and storage capacity would go to about 50 customers in Indiana, Ohio, Michigan, Missouri, Illinois and Kansas.

● **Transcontinental Gas Pipe Line Corporation** has applied for authorization from the FPC for the construction of about 25 miles of 12-inch lateral pipeline and a meter station in Cameron and Calcasieu Parishes, Louisiana. This will enable Transcontinental to gain access to additional natural gas reserves in fields in Orange, Chambers and Jefferson Counties, Texas. Transcontinental's proposed 25 mile line would connect with Texas Gas Pipe Line's proposed facilities in Cameron Parish, and would extend to a connection with Transcontinental's main line in Calcasieu Parish. Estimated cost of this project is $1.1 million.

● **Trunkline Gas Company** has received temporary authorization by the FPC for the construction of a new pipeline crossing of the Mississippi River on its natural gas transmission system. The new crossing will be located just north of Trunkline's existing crossing in the Greenville, Mississippi area. The crossing was deemed necessary because of the deterioration of the existing lines. The new facilities are estimated to cost $3.0 million and will include two 24-inch lines crossing the river, together with interconnecting lines to link the new crossing with the company's system.

Toronto girls vie for homemaking honors

SIXTY-FOUR high school girls had a chance to prove their homemaking prowess recently during a Mrs. Future Homemaker Contest, sponsored by Consumers Gas Company of Toronto, at the Canadian National Home Show April 2-10. Publicized by press, radio, television and newsreel, the home economics students and their accomplishments were the center of interest, and according to Marjorie Chandler, Consumers Gas Company home service director, the career of home economics was given a big boost.

The contest was open to all secondary schools in Toronto. The gas company built three New Freedom Gas Kitchens and two laundries in a seventy-foot area for the competition and supplied the many prizes—portable sewing machines, cameras, radios and souvenirs. In addition, the gas company held a pep rally before the contest, during which rules and equipment were discussed.

Every school sent one or two teams of two girls. Each team was required to complete one cooking and one laundry project under the judging eye of a qualified, independent home economist. In addition, well-known local personalities were judges during the contest.

The girls had to prepare a family meal for four on sparkling new automatic gas ranges, they had to use the automatic gas clothes dryer and other gas appliances. Special attention was given to equipment care. After vying for honors in shirt-ironing, sheet-mending, cooking, sock-mending, flower-arranging and a thousand other housewifely duties, the winning team members received portable sewing machines and a trophy for their school. Home economics teachers throughout the area were enthusiastic about the contest, for they saw how, for a short time, it put their subject in the limelight, and glamorized homemaking as a career.

Midwest Council meets in Rockford

THE MIDWEST Industrial Gas Council attracted an enthusiastic group of over 100 industrial gas men to Rockford, Illinois on May 20-21.

Papers were presented by Everett Magnusson, Eclipse Fuel Engineering Co.; Conrad Claeson, Barber-Coleman Co.; V. C. Bullen, Cincinnati Milling and Grinding Machine Company.

The fall meeting of the Midwest Industrial Gas Council will be held in Chicago on November 4.

Help for handicapped

Occupational therapy training devised to help handicapped housewives resume domestic activities at home is the specialty of Charlotte Ritter, Kessler Institute for Rehabilitation, West Orange, New Jersey. Miss Ritter assists Dorothy Podraza, who is learning to cook on a donated clock-controlled Caloric gas range, located in the Institute's training kitchen

Manufacturers announce new products, publications and promotions

NEW PRODUCTS

Tappan Stove Company has added three new models to its present range line. The Tappan Chrome Queen, one of the select Super 60 series, is a 40-inch range (model HQKV-62) boasting a generous use of chrome on the exterior, as well as a chrome-lined window oven. Another model of Chrome Queen (HQV-62) is essentially the same in all aspects except that it has a porcelain oven and broiler. The Chrome Princess (KTV-72) is an addition to the 36-inch range class. This range has many Tappan features including window oven, interior oven light, lock-type simmer valves and the divided top.

Perfection Stove Company's new 36-inch model M-643 features a high broiler, range-top griddle, window oven with interior light, storage space, high splasher back.

Magic Chef's new show-piece is the "color chrome" range, blending colored porcelain enamel and reflective steel. It is 36 inches wide and will be made in willow green and coral rouge.

Detroit-Michigan Stove Company is also following the present trend toward more color in the kitchen, by introducing a new model in a choice of colors including green and gold.

Brulé Incinerator Corp., Chicago, is offering a large 4½-bushel model designed to meet the requirements of the larger family. The new incinerator employs HY-FA (high facility), a new design which meets objections raised by fire departments, building departments, smoke abatement groups and utility engineers. The incinerator has been field-tested for several months in commercial and residential applications. It meets American Gas Association safety requirements.

Temco, Inc., Nashville, Tenn., announces a new economy-priced gas clothes dryer. The new model has all the features of the company's deluxe dryer, with the exception of automatic ignition and ultra-violet lamp assembly. It holds up to 18 pounds of wet wash, permits 120 minutes of operation.

Servel's first models of a new two-ton gas-operated air conditioner are now coming off the production lines. The unit, called Wonderair Model EB-RG, is the first automatic gas cooling equipment that can be added to existing warm-air heating systems. The air conditioner requires only 8.7 square feet of floor space, and will go through a 30-inch door. It is made for operation on all types of gas.

Dravo Corp., Pittsburgh, adds two new gas fired warm air space heaters to supplement its line of oil fired heaters. Dravo's Model 20-G has a capacity of 200,000 Btu per hour while Model 25-G has a capacity of 250,000 per hour. The new units are suitable for natural, manufactured or mixed gases and liquefied petroleum.

NEW BOOKLETS

Harper-Wyman Co., 8562 Vincennes Ave., Chicago 20, has issued the third edition of *How to Sell More Gas Ranges.* It offers advice to dealers, retailers, salesmen. Pocket-sized, illustrated, 43 pages, it offers many helpful demonstration ideas.

In addition, the company is offering to members of the gas appliance industry a catalog of complete information on all Harper-Wyman products.

Welbilt Stove Co., Inc., Maspeth 78, N. Y., offers the Cookbook for Rotisserie and Broiler Cooking. Hard cover, 62 pages. Available at no charge with purchases of Welbilt Rotisserie Ranges and for promotional purposes.

Dravo Corporation's new Bulletin 543-B illustrates its complete line of commercial and industrial, gas-fired warm air heaters having output capacities of 88,000 to 160,000 Btu per hour.

Canadians gather in Windsor to re-elect Severson

ALBERTA GAS for Eastern Canada, and the impact of natural gas in volume on the national economy formed the theme of the 28th annual meeting of the Natural Gas and Petroleum Association of Canada, May 27 and 28, at Windsor.

Association President S. B. Severson, in his convention address said, "With the advent of a sufficient supply of natural gas for all purposes, industry in general will expand, and population will increase . . . Canada is going places fast."

With the exception of three new directors, the entire executive leadership of the association was re-elected. Officers include: S. B. Severson, Dominion Natural Gas Co., Ltd., president; G. H. Smith, Port Colburne-Welland Natural Gas and Oil Co., Ltd., past-president; Thomas Weir, Union Gas Co., first vice-president; L. B. Mehlenbacher, Cayuga, second vice-president; John Ostler, Canadian Meter Co., treasurer; and S. C. Hanna, United Gas and Fuel, Hamilton, secretary and assistant treasurer. New directors are James Farrell, John Reeves, and W. A. Roliff. L. G. O'Connor and George Stammers were re-elected as directors.

A.G.A. announces new publications during June

LISTED BELOW are publications released during June up to closing time of this issue of the MONTHLY. Information in parentheses indicates audiences for which each publication is aimed.

LABORATORIES

• **Study of Possible Burner Adjustment Indicator Devices Research Report No. 1214** (for utilities, appliance manufacturers). By E. J. Weber, sponsored by the A. G. A. Committee on Gas Operations Research. Obtainable from the American Gas Association Laboratories, for 50 cents.

OPERATING

• **Supplement to Bibliography on Underground Storage** (for anyone interested in underground storage operations). Originally issued in 1952, under the auspices of the Committee on Underground Storage. Available free from American Gas Association.

PROMOTION

• **Experiments with GAS** (for teachers). Albert Weaver, author. Available from Educational Service Bureau, American Gas Association, for 25 cents.

RESEARCH

• **Study of Commercial Odorants for Natural Gas, Including the Development of an Odor Test Room Method** (for all companies odorizing natural gas). By Russell W. McKinley and Ann E. Larratt. Available from A. G. A. Headquarters, one dollar a copy.

• **Large Diameter Orifice Meter Tube Tests** (for transmission companies). Available from A. G. A. Headquarters, for one dollar.

SAFETY

• **How Injuries to Gas Men Can Be Avoided** (for safety directors). Prepared by the Accident Prevention Committee, available from A. G. A. Headquarters, for ten cents a copy.

• **Information Pertaining to a Fatality Occurring in the Gas Industry** (for safety directors). Prepared by the Accident Prevention Committee, available from A. G. A. Headquarters for ten cents a copy.

STATISTICAL

• **Monthly Bulletin of Utility Gas Sales for May** (for gas companies, financial analysts). Prepared by the Bureau of Statistics and available from A. G. A. Headquarters, free.

• **First Quarterly Report of Utility Gas Sales** (for gas companies, financial analysts). Prepared by the Bureau of Statistics and available from A. G. A. Headquarters, free.

SGA signing students

A TWO-WEEK COURSE in management, sponsored by the Southern Gas Association for employees of the natural gas industry, will begin on August 1. The course will be conducted on the campus of the Texas College of Arts and Industries, Kingsville.

Further information can be obtained from Dr. Frank Dotterweich, Texas A & I, Kingsville, Texas.

Top echelon changes announced at Southern Counties Gas

GUY W. WADSWORTH, JR. has been named president and general manager of Southern Counties Gas Co., Los Angeles. He succeeds Arthur F. Bridge, who has withdrawn from active duty.

Jerrold Q. Abel has been elected controller and treasurer of the company to succeed George T. Kelly who has retired because of illness. Mr. Abel has also been named to the board of directors.

Mr. Bridge recently completed 35 years of distinguished service with Southern Counties Gas Company. He first went to work for the company as rate engineer in 1919 and was promoted to executive engineer in 1927. A year later he was elected vice-president in charge of operations. In 1939 he became vice-president and general manager; then president and general manager in 1947.

For many years Mr. Bridge has been active in gas industry affairs both on the Pacific Coast and nationally. He served as president of the American Gas Association in 1942, and president of the Pacific Coast Gas Association in 1949. He has been a member of the A. G. A. Laboratories Managing Committee since 1931 and has served as chairman of the committee since 1947.

In 1950 Mr. Bridge was appointed to the A. G. A. National Defense Committee, which was established to work with the federal government in arranging the program of gas utilities participation in the event of a national emergency.

Mr. Wadsworth, whose career with Southern Counties Gas Co. began in 1921, has been a vice-president of the company since 1942. He became vice-president and general manager last November.

The personnel testing and selection procedures he developed in the early '30's as personnel manager for Southern Counties Gas Company have been widely adopted by industries all over the United States.

During World War II Mr. Wadsworth served three years with the Army Service Forces in Washington, D. C., with the rank of Colonel. He was awarded the Legion of Merit for his outstanding contribution to the war effort as deputy director of the Civilian Personnel Division, Army Service Forces. He, too, is a member of A. G. A.

Arthur F. Bridge

Guy Wadsworth

For the past four years Mr. Abel has served as general auditor and assistant treasurer of the company. Previously he had held a number of important auditing and supervisory positions.

Prior to joining the gas company in 1943, Mr. Abel was associated with Haskins & Sells, certified public accountants.

Mr. Abel is a graduate of the University of California at Los Angeles with a B.A. degree in economics. He is a member of American Gas Association.

Personal and otherwise

McElvenny assumes new duties in American Natural

RALPH T. McELVENNY, president of the American Natural Gas Company, has been elected chairman of the board of Michigan Consolidated Gas Co., Michigan Wisconsin Pipe Line Co., American Louisiana Pipe Line Company and of American Natural Gas Service Company.

Mr. McElvenny joined American Natural in 1945 and has devoted the major portion of his activities to the financial and regulatory problems of the system companies.

As chairman of the board of Michigan Consolidated Gas Co., Mr. McElvenny succeeds Henry Fink.

Mr. Fink was named chairman of the executive committee of the company and Hugh Daly, vice-president, was added as a new member of the board.

Mr. Fink has had long service with Michigan Consolidated and was a former president of the company.

Mr. Daly, former Detroit newspaperman, joined the company in 1950 as an assistant secretary and became a vice-president in 1953.

Laclede Gas Company advances Eddins and Burgess

HENRY A. EDDINS, vice-president in charge of operations, Laclede Gas Co., St. Louis, has been elected executive vice-president.

At the same time Allen H. Burgess, general superintendent, was elected a vice-president. Mr. Burgess will retain the post of general superintendent as well.

Mr. Eddins, a graduate engineer of Texas A. & M. College, has been in the utility business since 1931, except during World War II. He was named a vice-president of Laclede in 1948, a few months after joining the company.

Mr. Burgess, a graduate of Oklahoma A. & M. College, joined Laclede in 1951, as general superintendent after serving as district superintendent of the Oklahoma Natural Gas Company.

Mr. Eddins and Mr. Burgess are both members of American Gas Association.

Mange and Manz named Consolidated Edison vice-presidents

WINTHROP E. MANGE and Otto W. Manz, Jr., were elected vice-presidents of Consolidated Edison Company of New York, Inc., New York City. Mr. Mange will have responsibilities in the field of industrial relations. Mr. Manz will have charge of testing and distribution operations.

Mr. Mange was president of the Staten Island Edison Corporation when that utility was acquired by Consolidated Edison in 1951 through a stock purchase. Following the acquisition, Mr. Mange was elected an assistant vice-president of Consolidated Edison and has been specializing in the field of industrial relations in recent years.

Mr. Mange was graduated from Cornell in 1922 with a degree in mechanical engineering and began his utility career that same year as an engineer for New York State Electric and Gas Co., part of the then Associated Gas and Electric System.

In 1926, Mr. Mange moved to Staten Island Edison as assistant general manager. He served as general manager of several other companies in the A.G.&E. system and returned to Staten Island Edison as vice-president and general manager in 1937, becoming president in 1938.

Mr. Manz has been an assistant vice-president of Consolidated Edison since 1952.

Mr. Manz was graduated from the University of Pennsylvania in 1923 with a B.S. in electrical engineering. Two years later he joined Brooklyn Edison, now a part of Consolidated Edison, as an engineering assistant. He specialized in field test work until assigned to the production department in 1946.

In 1943, Mr. Manz was loaned to Carbide and Carbon Chemical Corp., which was building an electric generating station at Oak Ridge, Tennessee. He assisted in the construction and, for two years, ran both the plant and the distribution system there. Returning to Consolidated Edison in 1946, he joined the system operation department, and was named manager of that group in 1950.

Schmidt retires as vice-president of Lone Star Gas Company

ELMER F. SCHMIDT, senior vice-president of Lone Star Gas Co., Dallas, and its subsidiary, Lone Star Producing Co., retired on June 1.

Mr. Schmidt will open a consulting office in Dallas.

His retirement brings to a close a lengthy career in the public utilities field, 36 years of which were spent with Lone Star Gas Company.

Mr. Schmidt entered the public utilities field in 1912, when he was employed as a draftsman by the Ohio Fuel Co., with headquarters at Charleston, West Virginia.

In 1913 he moved to Toledo, Ohio as an inventory engineer for the Northwestern Ohio Natural Gas Company. He accepted a similar position with the Fayette County Gas Co., Uniontown, Pa. in 1914.

Mr. Schmidt returned to Ohio in 1915 to accept a position as surveyor and gas measurement engineer with the Ohio Fuel Supply Co., Columbus.

In 1917 Mr. Schmidt was "borrowed" from Ohio Fuel and Supply to make a survey of oil and gas fields in Texas for Lone Star Gas Company. Then, in 1918, he became an official member of the Lone Star family when he was named gas measurement superintendent.

He was named chief engineer in 1920, general superintendent in 1925, and vice-president in charge of production and transmission in 1935. He became a member of the board of directors at the time of his election to the vice-presidency.

While with the gas measurement department of Ohio Fuel Supply Co., Mr. Schmidt aided materially in developing the orifice meter recording mercury differential gauge for high pressure gas measurement; and the gas density balance used widely today in determining specific gravity of natural gas. The modern science of accurate and dependable high pressure natural gas measurement owes much to his early development work.

Prominent in industry affairs, Mr. Schmidt served as chairman of the American Gas Association Natural Gas Department in 1940. He has served on more than 25 A. G. A. committees and is currently a member of the A. G. A. Laboratories Managing Committee. He is also vice-chairman of the D-3 Committee on Gaseous Fuel of the American Society for Testing Material, and chairman of the D-3-4 Committee on Specific Gravity.

In addition, Mr. Schmidt is a member of the Texas Mid-Continent Oil & Gas Association, Pacific Coast Gas Association, the Independent Petroleum Association of America, American Society of Mechanical Engineers and American Petroleum Institute.

He is a graduate of Cornell University, Ithaca, New York.

Boulet, Bur and Meyrick elected to top executive posts in Wisconsin

WISCONSIN Public Service Corp., Milwaukee, has three new vice-presidents. They are C. B. Boulet, vice-president—personnel; A. G. Bur, vice-president—sales and G. S. Meyrick, vice-president—power production and engineering. In addition, P. G. Ellis, was named assistant vice-president and H. P. Taylor, Milwaukee, vice-president and treasurer, was designated senior vice-president.

Mr. Boulet has been with Public Service for 32 years starting as an accountant and progressing to office manager, safety engineer, manager insurance and safety, and personnel director. Mr. Bur has been with the company for 26 years, starting as stores clerk and progressing to storekeeper, division auditor, assistant treasurer, and sales manager. Mr. Meyrick started in 1923 as an electrical engineer and has successively held positions as engineer, assistant chief engineer, acting chief engineer, and power and engineering manager. Mr. Ellis has been with Public Service for 18 years starting as valuation engineer and has successively held positions up to assistant to the president.

Re-elected are C. E. Kohlhepp, president; H. P. Taylor, vice-president and treasurer; D. W. Faber, secretary and assistant treasurer; L. G. Roemer and I. P. Steybe, assistant secretaries and assistant treasurers; and A. E. Granholm, assistant treasurer.

Four industry leaders named vice-presidents of LP-Gas council

FOUR NEW vice-presidents have been elected to the National Council for LP-Gas Promotion. They are: George P. Bunn, manager, natural gas and gasoline department, Phillips Petroleum Co., Bartlesville, Okla.; Julius Klein, president, Caloric Stove Corp., Philadelphia; C. J. McAllister, vice-president and general manager, Parlett Gas Co., Waldorf, Md.; and Herman Merker, president, Pressed Steel Tank Co., Milwaukee.

Mr. Bunn, appointed by the Natural Gasoline Association of America, is chairman of the LP-Gas producers on the national council. Mr. Klein, named by Gas Appliance Manufacturers Association, heads the appliance manufacturers. Mr. McAllister and Mr. Merker are chairmen of the LP-Gas marketers and equipment manufacturers respectively.

Thomas resigns as Pennsylvania and Southern president

H. EMERSON THOMAS has announced that he has resigned as president of Pennsylvania and Southern Gas Company and its subsidiaries. Eric Tinney, of Philadelphia was elected as the new president. Mr. Thomas will remain a director of the companies and will serve in a consulting capacity.

Mr. Thomas will continue his activities in the LP-Gas business through his connections with H. Emerson Thomas and Associates, Inc., Thomas Gas Contractors, Inc., Liquefied Petroleum Service Co., Southern Butane Gas Corp., Cumberland-Butane, Inc., Suburban Fuel Tank Car Co., Pressure Tank Car Co., Jersey Shore Gas and Heating Company and The Gas Light Company of Waverly, New York. He will also continue his LP-Gas consulting work.

Sloan promoted at Columbia Service System Corporation

THE COLUMBIA GAS System Service Corp., New York, has elected Robert C. Sloan assistant treasurer.

Mr. Sloan has been executive accountant in charge of the accounting department. In his new capacity he will continue to head the department, reporting to Charles H. Mann, treasurer.

Mr. Sloan joined Columbia's service corporation in 1953. He formerly was project manager of the technical assistance division, Mutual Security Agency, Washington, D. C.

He holds a bachelor's and a master's degree in economics from the University of Illinois. Before joining MSA he was with the Central Illinois Public Service Company for 17 years.

Gas Machinery Company advances Calhoun, Kyle and Stookey

J. C. CALHOUN, Jr. has been elected president of The Gas Machinery Co., Cleveland. At the same time, Robert Kyle and K. W. Stookey were elected first and second vice-presidents respectively.

Mr. Calhoun was previously vice-president and secretary. He has been associated with the company for a number of years.

Before his recent promotion, Mr. Kyle was sales manager for several years. During his career, he has served the General Controls Co., Cleveland, the Iroquois Gas Corp., Buffalo, and the American Gas Association Laboratories, Cleveland. He is a member of A. G. A.

Mr. Stookey was formerly vice-president and construction superintendent. He too is a member of American Gas Association.

Coghlan retires after 48 years with Pacific Gas and Electric

JOHN P. COGHLAN, vice-president and assistant to the president of Pacific Gas and Electric Co., San Francisco, retired June 30 after more than 48 years of service. During this time he was one of the most influential figures in the company's development from a newly organized corporation in 1905 to its present position as the nation's largest gas and electric company. He will continue as a member of the board of directors.

Mr. Coghlan has served as a member of the board of directors for 23 years, as assistant to the president for 31 years, and has been a vice-president for almost 27 years.

Mr. Coghlan came to San Francisco as a boy and became successively a leading San Francisco newspaperman, a member of the state bar and assistant city attorney of San Francisco, before becoming a utility executive.

He went to work as an office boy on the *San Francisco Evening Post* and later was a reporter on the *Post*, the *Daily Report*, and the *San Francisco Bulletin*. Meanwhile he completed his education, studied law and in 1898 was admitted to the bar.

He continued a dual career as newspaper reporter and as an attorney in private practice until 1904, when he was appointed assistant city attorney for San Francisco.

In 1906 Mr. Coghlan joined the Pacific Gas and Electric Company as an attorney in claims and compensation cases. The company had been organized only the preceding October as a consolidation of several pioneer utility systems. On the morning of the great San Francisco earthquake and fire in 1906, he was one of the few employees who succeeded in reaching the company's headquarters where he helped rescue many of the company's records.

In 1923 Mr. Coghlan was made assistant to the president of P. G. and E., W. E. Creed, and continued in the same capacity under President A. F. Hockenbeamer and President Black. He was elected a vice-president in 1927 and became a director of the company in 1931.

Mr. Coghlan's work as assistant to the president has had to do primarily with taxes, publicity, public and employee relations and also relations with national, state and local government.

He was one of the founders of the Pacific Service Employees Association and was chairman of the committee which drafted the company's pension plan. He organized the company's claims department and put into effect an accident prevention program which is still in operation.

He is a member of the American Bar Association, the California State Bar and San Francisco Bar Association, the San Francisco Chamber of Commerce, Pacific Coast Gas Association and the Pacific Coast Electrical Association.

Utilities, pipelines and manufacturers announce personnel changes

UTILITY AND PIPELINE

L. A. Bickel has been elected assistant general manager of the Dallas Distribution Division, Lone Star Gas Company. He entered the Lone Star Gas System in 1925. He is a member of the American Gas Association.

Charles Pennypacker Smith, chief gas dispatcher of Pacific Gas and Electric Company since 1943, has been promoted to the newly-created position of senior gas supply and meteorological engineer. Succeeding him as chief gas dispatcher is Jesse C. Moss, formerly assistant.

Claude H. Webber, superintendent of gas department and an employee of the company since 1922, was elected a vice-president in charge of gas operations, The Tucson Gas, Electric Light and Power Company.

Patricia Acker has joined the commercial sales department of The East Ohio Gas Company as a dietary consultant.

W. M. Stephens, industrial sales representative for United Gas Pipe Line Company's San Antonio district since 1937, has been promoted and transferred to sales manager of the Houston distribution division, United Gas Corporation.

A. Bruce Ewing has been named news bureau manager in the information department of The Manufacturers Light and Heat Co., and other Pittsburgh Group Companies of the Columbia Gas System.

Monty G. Martin has been appointed chief geologist for the Texas Gas Transmission Corporation's gas supply department, Shreveport. Mr. Martin had served as chief geologist for Southwest Natural Production Co., Shreveport.

Jack F. Harang has joined Republic Natural Gas Company's exploratory staff as division manager of land and geological departments in Dallas.

MANUFACTURERS

Vulcan Hart Manufacturing Co., Louisville, Ky., announces the appointment of **James F. Whisler** as sales representative in northern Illinois and northern Indiana.

Ernest S. Kopecki has been named manager of public relations and promotion, Selas Corporation of America, Philadelphia.

John F. Myers is Servel Inc.'s new district sales manager for New England.

Bradley named chairman of NAPA group

FRED D. BRADLEY, purchasing agent and assistant treasurer of Southern Union Gas Co., Dallas, has been elected chairman of the Public Utility Buyers' Group of the National Association of Purchasing Agents at the NAPA convention in Chicago.

Mr. Bradley was honored by Southern Union Gas Company this year with the first diamond-studded 25-year service pin to be presented to a Southern Union employee.

Mr. Bradley is a member of the American Gas Association, the Independent Natural Gas Association and the Southern Gas Association.

Roy Jones heads Florida-Georgia group

ROY E. JONES, executive vice-president, Peoples Water and Gas Co., North Miami, has been elected president of the Florida-Georgia Gas Association. Mr. Jones was elected at the end of a two-day business meeting of the association.

In the same election, Joseph Frink of the Florida Power & Light Company was elected the association's secretary-treasurer.

The association is composed of 18 gas utility companies in Georgia and Florida.

Gardescu heads Houston consulting office

HZINDER & Associates, Inc., utility consulting firm of Washington, D. C. and Dallas, Texas, opened a new branch office in Houston, Texas on July 1. The new office will be under the direction of Dr. Ionel I. Gardescu, prominent consulting petroleum engineer and geologist.

The Houston office will provide consulting services in the field of gas and oil reserve estimates and related subjects for producers, pipeline companies and financial institutions. This will supplement the firm's present services, which include utility rate, cost studies and marketing consultation.

H. Ward Cheeseman

senior sales engineer, The Sprague Meter Co., Bridgeport, Conn., died suddenly on May 8. He was 74 years of age.

Mr. Cheeseman was associated with the company for 48 years, having started as a timekeeper in May 1906, later becoming foreman. During World War I, he acted as branch manager in Davenport, Iowa and then covered the eastern territory from Maine to Florida and west to Buffalo for nearly 30 years. He was one of the original 13 members of the Gild of Ancient Supplers, and was a member of the American Gas Association, the Pennsylvania, New England and New Jersey Gas Associations.

Facsimile bill convinces customers

MINNESOTA VALLEY NATURAL GAS COMPANY
Pay Net Bill on or Before Discount Date and Save

DISCOUNT DATE	PRESENT	PREVIOUS	USED THIS C P	GROSS	NET	DISCOUNT DATE	C	GROSS	NET

This is NOT a gas bill—but its approximately what your gas bill would be to use:

A MODERN AUTOMATIC GAS RANGE ..... $ .84
AN AUTOMATIC GAS WATER HEATER 1.05
$1.89

(Based on average consumption of a family of 4 if using Gas for heating)

Gas • Gas Appliances Cost Less to Buy! — Less of Install! — Less to Operate! Change Now! Enjoy Better Service for Less Cost!
FOR REFRIGERATION — COOKING — WATER HEATING — HOUSE HEATING

CASH STUB
When remitting by mail return this stub.
Minnesota Valley Natural Gas Co.

Sample gas bill mailed by Minnesota Valley Natural Gas Co., St. Peter, to customers or non-customers who use competitive fuels. Comparison of costs is thus a simple matter

Awards gas dryer to 200,000th customer

AN AUTOMATIC gas clothes dryer was the prize enthusiastically chosen by Mrs. Melvin Price of Victoria, Texas, mother of three young children.

The Price family's home received Houston Natural Gas Corporation's 200,000th gas meter May 26, and in observance of the occasion, the Prices were offered a choice of four top-of-the-line gas appliances.

The company's first meter was set in Houston in 1925 and its 100,000th meter was installed in 1947. Frank C. Smith, company president and leader in the gas industry pointed out that what took 22 years to accomplish between 1925 and 1947, now has been done in less than seven years. All of the growth has occurred without merger or acquisition of existing gas distribution properties.

GAS— By Rev. S. W. Metz Wapakoneta, Ohio

• The following poem was composed in February 1954, completely unsolicited, by a retired minister who is a customer of West Ohio Gas Co., Lima, Ohio. It was brought to our attention by Frank L. Pringle, gas company vice-president—The Editors.

For many years our fuel was coal
With it we filled the furnace bowl.
It kept us comfortable and warm
In winter's blasts and raging storm.
All winter, smiles were on my face
This fuel we never could replace.
I carried up the ashes too
Without much murmer or to-do.

But one cold day a man came in
As I was fixing up the bin,
And said, "Look here, get gas, my friend
And you will thank me to the end."

"Get gas", said I—almost a shout—
"You don't know what you talk about,
For coal, my furnace is, you see,
Not gas. That's plain as it can be."

"Oh, yes", said he and smiling wide,
"Put a converter right inside,
And you will be surprised, I say
As you keep warm from day to day."
And so, I did and am quite glad,
No shoveling, I now have had,
No ashes to lug up the stairs,
To irk me or disturb my prayers.

Now we sit rocking, watch the storm,
Are comfy, happy, pleased and warm.
The thermostat, the furnace stokes,
We are the luckiest of folks.
Why go to Florida each year
When we are just as warm up here?
With gas to burn, with friends to chat,
Do you know anything better than that?

Forms new subsidiary

PLANS FOR THE ACTIVE development of a producing subsidiary have been announced by Texas Gas Transmission Corporation. The new subsidiary will be known as Texas Gas Exploration Corp., Houston.

Texas Gas Exploration Corporation was formerly known as the Louisiana Natural Gasoline Corporation which operated from the Texas Gas offices in Owensboro, Ky.

W. M. Elmer, in addition to his duties as vice-president and treasurer of Texas Gas Transmission Corp., has been named president of the producing subsidiary. B. C. Adams, Jr., former gas supply vice-president of Texas Gas, serves as vice-president.

Movie star tests dryer

Debbie Reynolds, who appeared on cover of March issue, A. G. A. MONTHLY, tries out new gas clothes dryer in lobby of The Cincinnati Gas and Electric Company during recent promotion

Oil vs gas

(Continued from page 20)

The results of this process are shown graphically on Chart 3. The bottom scale of this chart is heat loss on a zero degree day. The vertical scale is the annual use of gas for heating only, expressed in therms. The basic relationships involved and the data itself both reveal a straight line. The 56 houses studied covered a wide range of heat loss from 28,320 Btu per hour to 197,000 Btu per hour. Chart 3 shows an average annual usage of 22.14 therms of gas for each 1,000 Btu per hour of heat loss.

We next approached, in a similar manner, the collection of comparable data for oil heated houses. A preliminary analysis was made from data covering ten houses but, as in the case of gas, this was subsequently expanded to cover data from 51 houses. In only a few cases were heat loss surveys available and in the majority of cases therefore it was necessary to take field measurements. Where surveys were available, they were checked in the same manner as indicated above for gas.

The matter of securing the data as to oil use proved to be the most difficult phase of this project, however. It was our desire to obtain exact oil delivery dates and the number of gallons at each delivery. In some cases, the owners were kind enough to look through old records to obtain this data; in some cases they obtained the data from the oil supplier and forwarded it to us; and in some cases they permitted us to secure it from the oil supplier directly.

In some cases the data was not sufficiently complete to permit making a proper analysis and therefore could not be used. We are most grateful for the cooperation which was afforded us by the owners of these houses and we were able, fortunately, to use a great part of the data. Based upon the delivery dates and gallons delivered, therefore, we were able to determine accurately for the cases selected the total oil actually used during a given period.

When domestic hot water was also supplied through the boiler, it was necessary to determine what portion of the

oil use should be properly attributed to this service.

At this point, we found ourselves faced with a major sub-study. However, as a start, the oil used for heating hot water during the 117 summer days could be determined accurately by consideration of the data covering this non-heating season. After considerable analysis, we came to the conclusion that the average oil required daily for heating hot water in the boiler during the 248 winter days, over and above that required for space heating, was one-half the average daily use for hot water heating in the summer period.

We found that if this basis was used in adjusting the data from houses utilizing oil for both space heating and water heating, there was a close correlation with the data for houses where oil was used exclusively for space heating.

Where the domestic hot water was heated through the boiler, therefore, the oil used for this purpose was deducted from the total oil used to obtain the net use for space heating. This value was then adjusted to normal heating season requirements by the ratio of the degree days for the particular period to 5,090 degree days, which was considered "normal" (as in the case of gas).

Chart 5 shows the final results based on 51 houses heated by oil. The average annual usage of oil was 22.5 gallons for each 1,000 Btu per hour heat loss. The bottom scale on Chart 5 is the same as that used for the gas data, namely, heat loss on a zero degree day. The vertical scale shows the total gallons required in a normal heating season for space heating only.

It might also be of interest to mention that although the type of heating system in each case is shown (that is, steam, hot water or warm air), no attempt has been made to differentiate between the relative efficiency of each type. However, the data will show that the two groups are comparable with each other.

With further reference to the matter of adjusting the fuel oil results for hot water requirements, attention is called to Chart 6 showing the relationship between annual oil use and heat loss for the 20 houses which used oil for space heating only. This chart indicates an average relationship of 22.5 gallons annually per 1,000 Btu of heat loss, which is the same factor found for the entire group of 51 houses, after the data from houses utilizing oil for both space heating and water had been adjusted in the manner previously explained.

From the final results of the tests it will be seen that in a normal heating season of 5,090 degree days, the fuel requirements per 1,000 Btu heat loss were found to be:

(a) *For Gas*
4,123 cu. ft. of 537 Btu manufactured gas
or
2,100 cu. ft. of 1,055 Btu natural gas or 22.14 therms.

(b) *For Oil*
22.5 gallons or 31.5 therms.

In terms of equivalent work performed, therefore, it can be said that 22.14 therms of gas are equivalent to 31.5 therms of oil.

As to the relative efficiency of the two fuels,

(a) the oil burning equipment in comparison with gas equipment was—

$$\frac{22.14 \times 100{,}000 \text{ Btu}}{31.5 \times 100{,}000 \text{ Btu}} \text{ or } 70.3 \text{ percent as efficient.}$$

(b) the oil burning equipment to do an equivalent heating job will require—

$$\frac{31.5 \times 100{,}000 \text{ Btu}}{22.14 \times 100{,}000 \text{ Btu}} \text{ or } 142 \text{ percent of the heat units required by gas equipment, OR 42 PERCENT MORE.}$$

None of the installations were custom-made but of standard design built by various manufacturers serving the domestic heating market. The houses were chosen to be and are believed to be representative for the area.

In neither group is there an unnatural weighting of well maintained or poorly maintained installations. It is believed, therefore, that they are representative of the development of the domestic gas and oil-burning industry, respectively, at the time the tests were made. Confidence in this data is also enhanced by the fact that a reasonably consistent relationship is shown in both sets of data between fuel usage and heat loss.

Subsequent supplement

This portion of the paper is intended to cover the many comments raised at the time it was presented before the ASME meeting, and those received by the author since then.

1. Free service

Did the users of gas heating equipment benefit from free maintenance service and, if so, did this fact place gas equipment at an advantage?

The facts are that in 1942, the practice of extending a partially "free service" to users of gas space heating was modified and this service was not extended to installations added after that date. As a result, only 12 percent of the users of gas space heating equipment in the area were receiving partially "free service" at the time these tests were made.

Specifically, 12 of the 56 houses tested were on the so-called "free list". The balance paid for such service as they required.

It should also be said that the oil suppliers in Westchester County generally speaking make it a practice to render complete burner service at a charge. Consequently, the two groups are believed to be comparable in this report.

2. "New" vs. "conversion" jobs

Were the two test samples comparable as to the number of "new" vs. "conversion" jobs?

The facts are:

(a) Of the 56 gas-heated houses, 32 or 57 percent represented installations where the equipment tested was installed new as a complete package when the house was built; and in 24 cases, gas-burning equipment was installed in an existing boiler or furnace which was originally fired by another fuel (usually coal).

(b) Of the 51 oil-heated houses, 36 or 70 percent represented installations where the equipment tested was installed new as a complete package when the house was built; and in 15 cases, oil-burning equipment was installed in an existing boiler or furnace which was originally fired by another fuel (usually coal).

The two groups may, therefore, be considered representative of the equipment being utilized in the area for gas and oil respectively and comparable, although the oil group is favored slightly.

3. Cost difference

Did a wide difference exist in the cost of gas and oil in the area in which these tests were made and were the home owners' habits affected thereby?

Actually, the difference in over-all heating costs between gas and oil at the time was about 30 percent. Neither could be considered a "cheap fuel". Due to the severity of the heating season in the area (5,090 degree days), the cost to heat a home, regardless of the fuel used, is a very substantial item and it is believed that a householder would try to avoid waste.

COMPARATIVE AVERAGE UNIT COSTS OF DOMESTIC HEATING FUELS IN WESTCHESTER COUNTY PERIOD 1935-1951

	NO. 2 FUEL OIL			DOMESTIC COAL			CON. ED. GAS UNDER HEATING RATE*	
YEAR	PER GAL	PER THERM	RELATION TO 1939	PER TON	PER THERM	RELATION TO 1939	PER THERM	RELATION TO 1939
1935	7.7c	5.50c	120.3	$12.13	4.68c	110.3	9.9c	102.7
1936	7.4c	5.27c	115.6	12.69	4.90c	115.4	9.9c	102.7
1937	8.5c	7.14c	132.8	11.31	4.36c	102.8	9.64c	100.0
1938	8.3c	5.93c	129.7	10.94	4.22c	99.5	9.64c	100.0
1939	6.4c	4.57c	100.0	11.00	4.25c	100.0	9.64c	100.0
1940	6.8c	4.86c	106.3	11.60	4.48c	105.5	9.64c	100.0
1941	6.7c	4.79c	104.7	12.50	4.82c	113.6	9.64c	100.0
1942	8.5c	6.07c	132.8	13.10	5.05c	119.1	9.64c	100.0
1943	9.0c	6.43c	140.6	13.70	5.29c	124.5	9.64c	100.0
1944	9.0c	6.43c	140.6	14.65	5.66c	133.2	9.64c	100.0
1945	8.3c	5.93c	129.7	15.20	5.87c	138.2	9.64c	100.0
1946	8.6c	6.14c	134.4	16.20	6.25c	147.3	9.64c	100.0
1947	10.5c	7.50c	164.1	18.25	7.04c	165.9	9.64c	100.0
1948	12.8c	9.14c	200.0	20.60	7.95c	187.3	12.90c	133.8
1949	11.4c	8.14c	178.1	21.75	8.40c	197.7	16.15c	167.5
1950	11.6c	8.29c	181.3	22.50	8.69c	204.5	16.15c	167.5
1951	12.5c	8.93c	195.3	24.20	9.34c	220.0	15.20c	158.0
1952	13.1c	9.36c	204.8	24.53	9.47c	222.8	15.20c	158.0
1953	13.6c	9.71c	212.5	26.37	10.19c	239.7	15.46c	160.4

* Natural gas or equivalent (1,055 Btu per Cu. Ft.). Heating cost computed as the difference between the total cost of all gas use and the cost of gas for cooking and domestic hot water.

4. Domestic hot water

Bulletin 366, University of Illinois (1947), revealed a somewhat different relationship between the summer and winter uses of fuel oil for heating domestic hot water.

No question is being raised as to the validity of the University of Illinois data within its intended scope; however, it was based on the experience of only one heating plant under controlled conditions in a laboratory and for a limited time whereas the results reported above represent the average experience of 51 different installations over an entire heating season. Specifically, they found in their test house that the average daily oil requirements for hot water in the winter period was 31 percent of the corresponding amount required in the summer time; whereas the Westchester results showed this relationship to be 50 percent.

However, if the University of Illinois basis was used for calculation of the oil use for hot water during the winter period, the oil use for domestic hot water would be *reduced* approximately 20 percent but the oil used for space heating would be *increased* approximately 6 percent. The end result would be, of course, to make the relative efficiency of the oil burners even lower than reported.

5. Reasons for low relative efficiency of oil burners

As has been stated in the paper, no attempt has been made to explain why the significant difference was found in the relative seasonal efficiencies of the 51 oil-heated houses as compared with the 56 gas-heated houses since that was beyond the scope of the study. In order to obtain a conclusive answer to this question, an extensive amount of instrumentation and manpower would be necessary.

It would also be desirable that a test of this kind should embrace an entire heating season since the average efficiency of a domestic heating plant during the spring and fall with relatively light loading might be different from that during winter with heavy loading.

What the results of extensive tests of this character might show is, of course, problematical. However, since this paper was presented, the author has had the benefit of discussion and interchange of correspondence with a number of qualified and thoughtful individuals on this matter. A composite opinion of these individuals is that the following factors may be significant:

(1) More complete burning of fuels in primary gaseous state.

(2) More accurate control of gaseous fuels, both during ignition and operation.

(3) Extended residual draft (continued draft during off-cycle) of oil-fired equipment due to:

(a) Generally larger and more massive heat transfer surfaces.

(b) Higher flue gas temperatures resulting in greater heat retention of flues, particularly masonry type.

(4) During the extended residual draft indicated in (3) it would be anticipated that more pounds of hotter flue gases (wasted Btu) would be vented through the flue with oil-fired equipment, which, in turn, would indicate the probability of a higher infiltration for combustion and relief through the draft control device.

(5) Incomplete burning of oil fuel

during cold starts or intermittent firing—resulting in poor efficiency and oil wastage (in the form of oil vapor), particularly during periods of light loading.

(6) Soot formation on heating surfaces of boiler or furnace, due to incomplete combustion caused by "cold starts" or faulty initial or eventual adjustment of the burner, resulting in poor heat transmission from combustion products to steam, water or air.

(7) Unstable draft conditions, resulting in excessive heat loss to the chimney.

(8) Generally overabundance of excess air.

(9) Difficulty in setting and maintaining proper input with oil equipment.

(10) Generally higher flue gas temperature.

The comparative efficiencies reported in this paper are, however, considered to be valid for the following reasons:

1. They were based on a full heating season.

2. Each group of houses was large enough to equalize the differences in personal habits and individual preference as to temperature, "on" and "off" time, opening of windows, etc.

3. Each of the group of houses includes a variety of heating system types (hot water, steam and warm air) in approximately the same combination.

4. Each group of houses embraced a wide and comparable range of heat loss.

6. Battelle Institute tests

In 1936 Ralph A. Sherman of the Battelle Memorial Institute in Columbus tested three houses burning natural gas and two burning oil. These tests were done in rotation, each individual test covering a period of only five days (123 hours); and, although performed more than 15 years ago, are nevertheless interesting.

Gas efficiencies were found to be 69.1 percent, 70.1 percent, 76.1 percent—average 73 percent.

Oil efficiencies were 50.9 percent and 65.2 percent—average 58 percent.

Whether the 50.9 percent or the 65.2 percent was more typical of the efficiency of the oil burners cannot be judged. However, on the average they indicated a relative efficiency of 80 percent for oil as compared with gas. While this does not agree with the results reported in this paper, the relationship between the two fuels is generally the same.

A further quotation from Mr. Sherman's paper is of interest. Referring to the high flue gas temperatures found in oil burning installations, he stated "although these results are not to be considered as representative of best practice, they are typical operation of many heating plants burning fuel oil. As a result of a survey of oil-fired heating systems conducted in Madison, Wisconsin, it was stated:

"A survey of some 140 residence installations indicated a stack loss of 27 percent as determined by a CO_2 average of 7.8 percent and an average flue-gas temperature of 634°F . . . a wide variation in stack losses was found indicating that many installations may be rated as excellent and others as unacceptably poor. The largest loss found in the survey was 46 percent and the smallest was 10 to 11 percent."

7. University of Wisconsin tests

In the opinion of the author, the most significant test data on this subject was obtained recently at the University of Wisconsin by J. R. Akerman, E. A. Farber and G. L. Larson. A report on the tests was presented by Dr. Akerman at the October 1953 meeting of the ASME in Rochester under the title "Combustion Efficiency vs Cycle Length of Domestic Oil Burners" (ASME paper No. 53-F-20).

In stating the purpose for which the tests were undertaken, Dr. Akerman said: "It has been noted many times that there is poor correlation between the average performance of an oil burner as shown by oil consumption and the efficiency as determined by methods which have been commonly accepted as correct . . . and that their study was made 'to investigate factors which might be critical in establishing combustion efficiency and which are not taken into account by the commonly used methods.' "

A further direct quotation is informative: "Commonly, the efficiency of oil burners is determined by computing stack losses, an analysis of the composition of the stack gas being made with either a one element or a three element Orsat and the stack gas temperature also being measured. The one element Orsat gives only the CO_2 content of the stack gas while the three element Orsat gives the CO_2, the O_2 and the CO content. When the burner has been operating for a substantial period of time under favorable conditions, an efficiency determined by these methods is typical and useful. As pointed out above, however, when the burner has just been started or when other conditions unfavorable to combustion occur, there will be other products of combustion and other losses in heat release which are not accounted for by the commonly accepted methods."

The tests were made on a pressure atomizing oil burner of the one to three gal/hr class with an insulating type fire brick combustion chamber installed in a steel boiler with a net rating of 96,000 Btu/hr. Efficiency was determined by comparison of the actual heat recovery with the heat equivalent of the oil fired.

The tests showed that these efficiencies were in the order of 42 percent during the "warming-up period"; that is, until the refractory attained a temperature of 950°F, and approximately 65 percent when above that temperature. These results in the opinion of the author shed considerable light on the reasons for the relatively high fuel requirements of oil burning equipment for an entire heating season.

During a large portion of the heating season, the heating plant is operating in relatively "light load", that is, when the "on time" is short in comparison with the "off time". During the spring and fall seasons this is particularly true and therefore the low efficiency prevailing during the warming-up period would be very significant.

8 Effect of house size

Although the study covered 107 houses ranging from 27,000 Btu heat loss to 200,000 Btu, attention has been called to the fact that a majority of homes fall between 40,000 and 100,000 Btu heat loss and that within this particular range there are relatively more installations "above the trend line" in the case of oil (Chart 5) than in the case of gas (Chart 3). It was thought that this might appear to put the oil installations at a disadvantage. A closer analysis of the data, however, is reassuring:

(a) On Chart 3, the weighted average of the 34 gas heated houses within the range of 40,000 to 100,000 represent a heat loss of 66,730 Btu and gas use of 1,539 therms. This point falls very close to the trend line.

(b) On Chart 5, the weighted average of the 46 oil heated houses within the range of 40,000 to 100,000 represent a heat loss of 68,670 Btu and an average fuel use of 1,544 gallons. This likewise falls very close to the trend line.

Convention

(Continued from page 7)

Haddon Hall Hotels. The Section will sponsor its annual luncheon meeting in the Carolina Room, Chalfonte Hotel, on Tuesday. A prominent speaker will address the management segment of the industry.

The Shelburne Hotel will be headquarters for the Industrial and Commercial Gas Section. The Section plans to hold its annual luncheon in the Rose Room, Hotel Traymore, at 12:30 on Tuesday, October 12. An afternoon meeting will follow with inspirational talks on subjects of interest to management and members of the industrial and commercial departments of member companies. Election of officers, reports and other business will round out the afternoon meeting.

An innovation for the Atlantic City convention will be a general luncheon meeting staged at the auditorium on Wednesday, following the General Session.

After luncheon an inspirational meeting will be held, with addresses by some of the industry's finest orators.

Application forms for hotel reservations can be secured from Association headquarters and should be mailed to A. G. A. Housing Bureau, 16 Central Pier, Atlantic City, N. J., as early as possible.

Computing depreciation

(Continued from page 31)

100 reserve is substantial, and the $132,000 amount of the difference is also substantial.

The foregoing results are not final, because consideration must be given to net removal cost. Actual analyses of past experience indicated substantial variation, but a range of 0 to 10 percent net removal cost appeared to be a reasonable expectation. Adjustments of the minimum and maximum reserves for net removal cost further increases the spread between reserves as shown below:

The difference between the maximum and minimum estimated reserves for this one account could thus be as great as $212,800!

	Reserve before Adjustment for Net Removal Cost	Net Removal Cost Adjustment Factors	Reserve after Adjustment for Net Removal Cost
Minimum	$676,100	100%	$676,100
Maximum	808,100	110	888,900

In the light of the foregoing, it can be seen readily that computations for electric or gas depreciation reserves as a whole can represent a very wide range in results which are estimates at best. To accept a single computed reserve study as the "gospel" basis for forcing the book reserve account into line with the computed figure is similar to plotting a trend line by using only one point. More points are needed as guides to judgment when depreciation reserves and rates are being reviewed. To be significant, such points can only be obtained over a period of years by making repeated estimates of reserves.

Mrs. America

(Continued from page 27)

Through the generous action of Detroit-Michigan Stove Co., the way was opened for the domestic gas range division of Gas Appliance Manufacturers Association to become a joint sponsor. This means that gas companies can feature any ranges that it or its dealers sell.

Gas industry sponsorship will accelerate the transition from any aspects of a bathing beauty contest to a competition that selects truly representative homemakers on every level of the promotion. The five essentials to be judged are homemaking qualities, intelligence (commonsense), character, appearance and personality.

Costs of participation were determined in advance on a sliding scale and sponsors know what the complete promotional package will cost. Included will be promotional material from A. G. A. and aid from companies that conducted successful campaigns this year. The early start will give participating companies eight full months to make local and state plans for individual promotions.

Below is a list of companies who signed up by June 24 for the gas industry's campaign to pick "Mrs. America of 1956."

ARKANSAS
- Arkansas-Louisiana Gas Company
- Mid-South Gas Company

CALIFORNIA
- Pacific Gas & Electric Company
- San Diego Gas & Electric Company
- Southern California Gas Company
- Southern Counties Gas Company

CONNECTICUT
- Bridgeport Gas Light Company
- Greenwich Gas Company
- Hartford Gas Company
- New Britain Gas Light Company
- New Haven Gas Company

FLORIDA
- Jacksonville Gas Corporation
- Peoples Water & Gas Company
- South Atlantic Gas Company (Orlando)
- Tampa Gas Company

GEORGIA
- Savannah Gas Company

INDIANA
- Citizens Gas & Coke Utility
- Hoosier Gas Corporation
- Indiana Gas & Water Company
- Northern Indiana Public Service Company

KENTUCKY
- Central Kentucky Natural Gas Company
- Union Light Heat & Power Company
- United Fuel Gas Company

MARYLAND
- Consolidated Gas Electric Light & Power Company of Baltimore
- Cumberland & Allegheny Gas Company
- Hagerstown Gas Company

MASSACHUSETTS
- Berkshire Gas Company
- Boston Consolidated Gas Company
- Central Massachusetts Gas Company
- Lawrence Gas Company
- Mystic Valley Gas Company
- Northampton Gas Light Company
- North Attleboro Gas Company
- North Shore Gas Company
- Norwood Gas Company
- Wachusett Gas Company

MISSISSIPPI
- United Gas Corporation

MONTANA
- Montana-Dakota Utilities

NEBRASKA
- Central Electric & Gas Company
- Kansas-Nebraska Natural Gas Company
- Metropolitan Utilities District
- Nebraska Natural Gas Company
- Northwestern Public Service Company
- Peoples Natural Gas Company

NEW MEXICO
- Southern Union Gas Company

NEW YORK
Binghamton Gas Works
Brooklyn Union Gas Company
Rochester Gas & Electric Corporation

NORTH CAROLINA
Piedmont Natural Gas Company
Public Service Company of North Carolina

NORTH DAKOTA
Montana-Dakota Utilities

OHIO
Cincinnati Gas & Electric Company
East Ohio Gas Company
Lake Shore Gas Company
Ohio Fuel Gas Company

OKLAHOMA
Oklahoma Natural Gas Company

OREGON
Portland Gas & Coke Company

PENNSYLVANIA
Equitable Gas Company
Harrisburg Gas, Division of UGI
Home Gas Company
Keystone Gas Company
Lancaster County Gas, Div. of UGI
Lehigh Valley Gas, Div. of UGI
Luzerne Electric & Gas, Div. of UGI
Manufacturers Light & Heat Company
Peoples Natural Gas Company
Reading Gas, Div. of UGI

SOUTH CAROLINA
Piedmont Natural Gas Company

SOUTH DAKOTA
Montana-Dakota Utilities

TENNESSEE
Nashville Gas Company

TEXAS
Southern Union Gas Company
United Gas Corporation

VIRGINIA
Virginia Gas Distribution Corporation

WASHINGTON
Seattle Gas Company

WEST VIRGINIA
Amere Gas Utilities
Natural Gas Company of West Virginia
United Fuel Gas Company

DISTRICT OF COLUMBIA
Washington Gas Light Company

Research and Utilization

(Continued from page 9)

place Wednesday afternoon with the delegates dividing into three groups instead of four for discussion of various current research projects and utilization problems. One group discussed heating and air conditioning, with Frank Ryder, South Wind Div., Stewart-Warner Corp., presiding over the research phase and William Miners, New Jersey Natural Gas Co., presiding over the utilization phase.

The other two groups were water heating, with R. E. Reynolds, Bastian-Morley Co., presiding over the research phase and C. George Segeler, A. G. A., presiding over the utilization phase; and cooking, incineration and clothes drying with Dr. F. E. Vandaveer, the East Ohio Gas Co., presiding over research discussion, and Ira Rapson, Michigan Consolidated Gas Co., presiding over utilization.

At each of these meetings the delegates were brought up to date on current research being conducted at A. G. A. Laboratories or at other institutions under the PAR Research Program. Discussion of field problems brought to the fore other lines of investigation that might be profitably developed by the researchers.

Reports on general utilization research projects, in previous years made before a fourth separate meeting, were presented before two of the above mentioned groups. Included were studies of the effects of gas composition on flame stability of appliance burners, combustion fundamentals of simple gases, more effective use of secondary air to support atmospheric gas flames, and single port gas burners.

At the Thursday morning general session, with H. A. Eddins, Laclede Gas Co., presiding, an interesting paper on pilot design, construction and performance was given by C. H. Pountney, Jr., of the A. G. A. Laboratories staff. One aspect of the research concerned material used to manufacture pilots, with the result that, according to Mr. Pountney, it is now possible to design pilot burner assemblies practically free of outage difficulties. In addition, this new knowledge can aid servicemen in determining the causes of pilot outages and in rectifying them.

A report on an investigation of air distribution in rooms for all-year air conditioning, given by Harold Straub, University of Illinois, reviewed principles for the proper design of a single duct for both heating and cooling, and the effectiveness of different types of registers and applications.

The results of an investigation of automatic storage-type domestic water heaters were given by Prof. Eugene F. Hebrank, University of Illinois. These laboratory tests of gas and electric water heaters were analyzed and energy rates favorable to gas were found to be the case.

Ral Murray, A. G. A. Headquarters, reported on a new service manual soon to be published by the Association.

The delegates were guests of cooperating manufacturers at a cocktail hour on Wednesday.

On the final afternoon of the conference chartered buses took delegates from the hotel to the A. G. A. Laboratories for the demonstration of the experimental gas range sections. After a brief review of the project and its significance to the industry by W. D. Egan, The Peoples Gas Light and Coke Co., and Edwin L. Hall, Laboratories' director, the units were put through their paces by Walter B. Kirk and Miss Patricia Speidel, both of the Laboratories' staff. At the conclusion a lively discussion ensued.

A large number of the visitors stayed after the demonstration to tour the Laboratories' buildings, including the new south wing only recently put into service.

Peoples

(Continued from page 16)

element in maintaining an increasingly impressive volume of sales of ranges and other gas appliances by the dealer outlets which include plumbing establishments, large and small straight appliance dealers and the department stores.

Sales of gas refrigerators, which in 1953 were 15 percent higher than the previous year, will have the benefit of a special newspaper advertising campaign which began late in April and is carrying through the summer months. A special gas refrigerator promotion, with salesmen competing against set quotas, this summer will be based on the theme, "On Our Way With Gas Refrigeration."

Two intensive sales campaigns devoted to gas-fired incinerators were conducted in 1953 to test customer acceptance in Chicago, and total company sales of this appliance in 1953 were 851, as compared with 86 sales in 1952. Utilizing information obtained during these two campaigns and data that is to be gained from a two-month promotion this fall, Peoples

Gas is planning on actively promoting the sale of incinerators on a year-around basis by 1955 or 1956. The increase in gas load due to new incinerator installations is expected to be considerable during the next five years.

Clothes dryers and incinerators both will be given increasing emphasis by the company's domestic sales force as the program progresses.

An added incentive for appliance sales was recently instituted under a plan by which all company employes are invited to submit to the domestic sales department the names of prospective buyers for all types of appliances sold by the company. Under the new Sales Prospect Award Plan, which was begun early this year, employes are paid a cash sum for each appliance sold by the company's salesmen to a prospect whose name and address has been provided by the employee.

Part and parcel with the company's action program is an extensive $1,000,000 remodeling project which is transforming the spacious first floor Customers' Hall of the Peoples Gas main building into a modern display and service headquarters for the use of all customers.

The remodeled main floor, which will be completed later this year, will provide a central location for exhibits showing all kinds of equipment and appliances for which gas is the fuel, and to make available to anyone interested reliable information concerning the appliances on display, whether they are for industrial, commercial or domestic use.

Included in the new Customers' Hall will be a novel group of model kitchens, improved space for the home planning section, and restful and artistic surroundings in which customers can pay their bills and transact business pertaining to service or home planning or home service problems.

On March 15 a new and completely modern air conditioned branch office was opened in the heart of the Madison-Crawford business section for the convenience of customers in that area of Chicago. On permanent display there, as at seven other principal branch offices of the company, are an attractive model kitchen and a complete line of home appliances.

Greater emphasis than ever was placed on the gas industry exhibit at Chicago's annual Modern Living Exposition which was held this year from April 3 to 11.

Twenty-five per cent larger than last year, the Hall of Flame exhibit sponsored by Peoples Gas occupied 10,000 square feet of floor space on Navy Pier and displayed A. G. A. tested and approved appliances and accessories of 28 manufacturers and suppliers. In all, 289,700 persons viewed the gas industry's exposition exhibit this year.

Focal point of the Hall of Flame exhibit group was the Peoples Gas garden theater and information center, from which a majority of the exhibits of individual appliance manufacturers flowed along both main aisles of the broad pier that extends into Lake Michigan.

Hall of Flame exhibits displayed the latest 1954 models of automatic gas ranges, of which there were 12 different brand names; water heaters, refrigerators, clothes dryers and incinerators as well as a wide variety of automatic space heating and air conditioning equipment.

Upon entering the Peoples Gas central exhibit, visitors strolled along formal paths laid out in geometric pattern and outlined by artificial trees and shrubs. At the far end of the formal garden was a fairyland stage on which a chorus of dancing vegetables and other animated figures enacted the theme of "Better cooking in 1954 with greater flexibility and flame control."

The Peoples Gas information center guided visitors to appliance display locations and provided answers to homemakers' inquiries pertaining to menu, home planning and service problems. Literature describing the newest models of appliances designed for the six basic jobs done by gas in the home—cooking, water heating, refrigeration, clothes drying, incineration and space heating—was provided for the many thousands of exposition visitors who viewed the gas industry exhibits.

In sketching the co-ordinated program by which his company is going forth to meet the competition, Chairman Oates on April 1 advised the 1954 annual meeting of Peoples Gas stockholders:

"We look forward to 1954 as a year of increasing activity at Peoples Gas to maintain our long-standing and solid foothold in Chicago's kitchens.

"Our Peoples Gas team is ready with rolled up sleeves, not only to hold on to what we have but to work toward the development of new markets. You can rest assured that we are not going to be chased out of the kitchen. . . ."

Radio communications

(Continued from page 11)

and the original association committee became the only representative group concerned with protecting the petroleum industry's over-all stake in radio, steps were taken to interest the API in the formation of a radio committee which could encompass all phases of the industry's varied operations. Subsequently, API authorized the formation of the Central Committee on Radio Facilities on April 23, 1947, and a temporary committee was appointed a few days later. The first permanent committee was appointed on November 9, 1947.

The newly-created CCRF immediately concerned itself with the most pressing problem, that of finalizing the establishment of the petroleum radio service. In close cooperation with the original PIEA group, this project was followed diligently with the FCC. Members appeared in numerous hearings in support of the industry's radio needs.

Finally, on May 3, 1949, the FCC announced the adoption of its Industrial Radio Service Rules in final form to become effective July 1, 1949. Sub-part "G" of part 2, Rules Governing Industrial Radio Services covers "Petroleum Radio Service."

Since the establishment of the Petroleum Radio Service, the volume of work performed by the CCRF has increased and has been extended to cover all facets of the radio problems faced by the petroleum industry. The Central Committee has been successful in establishing a friendly relationship between the oil and gas industry and, not only the FCC, but also other government agencies.

For example, CCRF members took part in the Communications Conference held by the Federal Civil Defense Administration at Olney, Maryland during the week of December 10, 1951. At that conference, it was recognized that the Petroleum Radio Service is indispensable in the national defense system of this country. Accordingly, it was stated in the Federal Civil Defense Administration Manual M25-1 under Chapter 9, Annex 9-A:

"Radio facilities operated by agencies providing essential public services, such as police, fire, power companies, petroleum companies, natural gas companies, common carriers and other public utili-

ties, will not be devoted to provide channels of communications for civil defense agencies except on a voluntary basis and at such times as channels can be made available without impairing the efficiency of the service."

The Central Committee has consistently aided the FCC and other branches of the federal government in solving industrial radio problems. Another good example of this activity has been the interest taken by the Central Committee in present microwave problems in connection with which a special committee called the Microwave Users Council has been formed.

While the history of the petroleum industry's use of radio is a relatively short one, the progress which has been made has been encouraging indeed and much of the success of this development can be directly attributed to the efforts of the Central Committee and its various subdivisional groups.

The Central Committee, as we have stated, operates as a functional part of API and as such represents about 98 percent of the radio licensees in the petroleum industry. The Committee has within its organization a Committee on Radio and Engineering, a Committee on Radio Coordination, a Committee on Geophysical Use of Radio, a Committee on the Use of Radio in Oil Production, a Committee on Pipeline Use of Radio, a Committee on Maritime Use of Radio, and a Committee on Refinery Use of Radio.

It is now also contemplated that there will be formed a Committee on Natural Gas Use of Radio within the framework of the Central Committee. This new natural gas committee will be made up entirely of representatives of the Communications Committee of A. G. A. and these representatives will, of course, guide the policy and activities of the Central Committee insofar as natural gas problems and decisions are involved.

The NPRFCA

The establishment of the National Petroleum Radio Frequency Coordinating Association has certainly been one of the most important accomplishments of the radio users in the oil industry. After the establishment of the new Petroleum Radio Service in 1949, the problem of coordination of frequencies assigned to the service became of paramount importance because of the great demand for frequencies and the relatively small number of frequencies available.

After several meetings, the NPRFCA was organized in Washington, D. C. on May 16, 1949, primarily for the guidance of the petroleum industry organizations in coordinating frequencies for their mutual benefit. This temporary committee was asked to function until such time as permanent arrangements could be made for a national organization representing the petroleum industry. The membership of this temporary committee was open to all persons or organizations eligible in the petroleum radio service.

The United States was divided into seven administrative regions and a temporary chairman was appointed for each. These chairmen were requested to return to their respective regions, call a meeting of all parties interested in the new petroleum radio service and organize regional associations. After this, each temporary chairman was asked to submit a report to the national meeting on June 13, 1949, in Kansas City, Missouri.

At the Kansas City meeting, a thorough review was made of the Washington proposals, particularly with reference to the coordination of frequencies within the industry. Considerable thought was given to the protection of the industry's geophysical operations, and it was deemed advisable to designate certain frequencies for their exclusive use. A final plan and an assignment pattern were adopted by the assembly, which consisted of approximately 60 members representing all phases of the petroleum industry in the United States. Each regional chairman presented the views of the users from his region, and these were carefully considered in the deliberations of this body. Permanent officers of the new association were elected, as provided in the by-laws adopted at the meeting.

The NPRFCA has since that time continued to operate as an association independent of the API, and has performed admirably in resolving the coordination problems of the petroleum radio service.

It is safe to say that, without the fine work of the NPRFCA, the limited number of frequencies in the petroleum radio service could never have accommodated the large number of users. Even so, the Association has recently been faced with the prospect of being unable to cope further with the overcrowding in the petroleum radio service. Acting with that pioneering spirit so typical of the petroleum and natural gas industries, the Association in conjunction with the Central Committee entered upon an extensive study into the feasibility of 20 kilocycle spacing in the petroleum radio service bands between 25 and 50 megacycles.

The study progressed so well that, on March 15, 1954, the API Central Committee was able to present a formal petition to the FCC asking that 20 kilocycle separation be permitted in the 25 to 50 megacycle band of the petroleum radio service.

The NPRFCA is divided into seven regional associations which handle the day-to-day job of frequency coordination. The present officers of its National Committee are: chairman, H. A. Rhodes, Transcontinental Gas Pipe Line Corp.; vice-chairman, C. D. Campbell, Humble Pipe Line Co.; secretary, R. D. Wycoff, Gulf Research and Development Company. The regional chairmen are: Region I, M. S. Collett, Atlantic Refining Co.; Region II, D. E. York, United Fuel Gas Co.; Region III, Delbert R. Wofford, Texas Gas Transmission Corp.; Region IV, E. H. Wilder, Sun Oil Co.; Region V, W. B. Haas, Northern Natural Gas Co.; Region VI, Fred Meats of Service Pipe Line Co.; Region VII, J. Bower, General Petroleum Company of California.

Summary

Certainly the three organized representative groups which we have briefly described in this article have gone a long way towards establishing industrial use of radio on a firm basis. Their continued efforts to better utilize the relatively few frequencies available should prove invaluable in providing for the efficient use of such spectrum space as is allocated to petroleum and utilities users.

In forming such new units as the new natural gas committee within the API Central Committee, the members of both the oil and gas industries continually demonstrate the cooperative and progressive spirit which has led to the rapid development of industrial radio. It is indeed no coincidence that petroleum and utility users of radio are by far the largest groups of industrial radio users. Their willingness to pioneer in the radio field has brought them and will continue to bring them the benefits of better communications for a better industry and an opportunity for greater service in the American economy.

Operating

(Continued from page 36)

ing presided over by J. O. Sholar, South Carolina Electric and Gas Co., with particular emphasis being placed on the different methods of peak shaving for natural gas by the use of oil gas, TPC process, and CCR process. There was also much interest shown in the recent research carried on by I.G.T. for the production of a 100 percent natural gas substitute. .

Safety was discussed, with particular emphasis on the explosion angle and the increase in insurance premium caused by this hazard. Tar dehydration of oil gas came in for the usual amount of discussion, and the consensus was that the different wetting agents should be employed before the tar is actually dehydrated by some mechanical or pressure method.

There was a lively discussion on corrosion problems, both in the plants and for the protection of transmission and distribution lines. Stand by problems were thoroughly discussed.

Large volume gas measurement

The meeting was a panel discussion attended by approximately 30 men. Panel members were: A. F. Kraus, The Peoples Natural Gas Co.; R. W. Welch, The Manufacturers Light and Heat Co.; and C. H. Whitwell, Equitable Gas Company. R. J. Ott, Philadelphia Gas Works, was moderator.

Among items discussed were customers' loads having a wide spread between the maximum and minimum rate of flow. The consensus was that the small rate of flow, usually from pilots, should be measured separately from the main burner rate of flow. Several companies put pilot use in the regular tariff, excluding it from the interruptible tariff. Usually the customer is happy about this because he can use the gas pilots for oil operation in the winter.

A discussion of use of heaters to overcome refrigerating effect of pressure reduction brought out that each atmosphere of pressure reduction corresponds with a decrease of 1 F., approximately, in temperature. Intensely cold gas can do considerable damage to paving, water pipes, etc., along the route of the main. The point was made that since the conditions causing the freezing are under the control of the pipe line company, the pipe line company should bear the expense of installing a heater if necessary. Contracts should so specify, it was said.

Filters installed at metering stations may be (1) oil scrubbers, (2) velocity type or (3) filter pad type. Because of varying rate of flow the last is probably the most satisfactory for use with customers' meter installations. Rochester uses filter pad type at the inlet of district regulators.

Various automatic controls are used with filters. With the velocity type scrubber the pressure loss must be kept at the figure for which the scrubber was designed and this can be done by turning off or on the scrubber tubes automatically, according to the differential across an orifice plate in the main line. Automatic controls are used to prevent the shutting off of gas supply by clogging up of a pad type filter. They open a by-pass as the pressure loss rises above a set figure.

Sometimes customers ask for gas supply at two different pressures. It was the consensus that very large industrial customers are special to the extent that their requirements must be given special consideration and satisfied if possible. In other words, it was felt that the meter station should be designed to give the customer what he wants.

T. L. Robey of A. G. A. talked about Report No. 3 which will be issued sometime in 1955 to take the place of the present Report No. 2 as the standard reference book on orifice metering. The principal new feature of Report No. 3 is that it will extend the range of orifice metering to larger sizes of runs.

Carbonization and coke

The Carbonization and Coke Luncheon Conference was attended by 56 men with Michael Perch, Koppers Company, Inc., Verona, Pa., presiding as chairman. Interesting discussions ensued on safety in the coke plant and methods of motivating safe practices. Oxidation of coal, methods of storage to minimize oxidation, and the effect of oxidation on coke quality and carbonization pressure were discussed.

Other subjects were bulk density control of coal in ovens, operation of ovens during periods of reduced throughput, and irregular coke oven operation because of authorized delays owing to safety, labor demands and planned maintenance.

In addition, a talk illustrated with a short movie and slides was given on low temperature carbonization of coal by fluidization.

Plant waste disposal

Dr. Morris Katz, chairman of the Canadian Section, Technical Advisory Board on Air Pollution to the International Joint Commission, in presenting a paper on "Recent Developments in Atmospheric Pollution" reviewed some recent smog disasters in which no definite conclusion as to specific causes could be determined. The synergistic action of a number of contaminants in the atmosphere was proposed as a possible explanation.

Thus, the mechanisms producing ozone in the presence of light and its subsequent oxidation of other constituents to those of higher toxicity were reviewed. He concluded by predicting future trends in pollution, stating that pollution control legislation will inevitably become more restrictive as more knowledge is acquired regarding the toxicity of specific contaminants.

Replies received in connection with a questionnaire circularized by the committee throughout the gas industry were summarized and distributed to those attending. The results indicated the necessity for a continuance of an A. G. A. committee on waste disposal. In spite of increased use of natural gas throughout the country, many of the older gaseous and liquid wastes are still produced, although in some plants only during peak shaving operations.

The majority of the respondents indicated the need for an A. G. A. information service advising on the latest developments in waste disposal as to legislation, techniques and equipment.

Odorization

Over 50 persons were in attendance at the Odorization Luncheon Panel. Presiding was P. L. Covell, Minneapolis Gas Company.

T. Lee Robey, A. G. A. coordinator of research, introduced Russell W. McKinley of A. D. Little, Inc., who briefly told about their work on the study of commercial odorants for natural gas, including the development of an odor test room method. This work was directed by Research Project PF_7 committee whose members told of research work on odor profiles, such as rubber, skunk, oily or sensory impressions.

Ralph L. Coryell, Consolidated Edison of New York, gave additional information regarding his work with odorometers. The question was raised—of what

good does odorization do—a question that set off a lively discussion.

Amos Abbott, Northern States Power Co., told of his experiences in testing for gas odor, not only with natural gas but also in 10 or 12 smaller properties with propane plants. Other engineers joining in relating their experiences included C. E. Gill, Natural Gas Odorizing Co., and G. J. McKinnon, Michigan Consolidated Gas Company.

George G. Dormer, Manufacturers Light and Heat Co., likened a gas leak to an orifice or opening through which gas escapes—making the point that the size of opening varies inversely with the amount of odorant in the gas. He also added off-the-cuff information regarding his paper which had been presented in the morning session.

Kenneth E. Glessner, Southern California Gas Co., asked for information regarding small odorizer installations. His company has around 300 odorizers in service feeding individual or small groups of consumers.

Low Btu gas

The conference, with H. T. Maloney, Philadelphia Gas Works, presiding, was opened on a keynote of safety, with Howard T. Jayne, Philadelphia Gas Works, reviewing utility attitude towards safety over the years. Now, he said, safety is part of every school child's education. Mr. Jayne advocated complete safety courses in college, leading to a degree in safety engineering.

G. R. Strimbeck, of the U.S. Bureau of Mines, gave a comprehensive report on the recent progress in coal gasification being accomplished at the Morgantown, W. Va., laboratories. Particular emphasis was placed on the types of new equipment being developed and its operability. Test results for each type and its performance on the various ranks of coal were also given. The report was illustrated with slides.

Considerable discussion was generated by the group with respect to specific performances and applications. All data given was in advance of publishing authorization and as a result no copy of the presentation could be released.

Cyclic catalytic reforming operating problems and recent developments were discussed. The most notable of these was covered by E. R. Griggs, Public Service Electric and Gas Company of New Jersey, in a review of experience in cracking kerosene catalytically. The work of the Institute of Gas Technology in testing and developing catalysts was reported on by H. A. Dirksen.

Industrial relations

(Continued from page 14)

Union waives claim to bargain—The NLRB has ruled that when an international union steps out of contract negotiations with an employer and fails to return for the concluding meetings, at which the local negotiating committee reaches an agreement, it may not subsequently assert jurisdiction over the local union in the matter. (See NLRB General Counsel Administrative Decision, March 10, 1954.)

● **Arbitration decisions**—*Employee discharged for violation of rule*—An arbitrator has ruled that, when a so-called company rule has never been unequivocably enforced, an employee with many years of service should not be discharged for violating that rule, when his work record is good. (See Wade Manufacturing Co. and AFL Textile Workers; Douglas B. Maggs, Arbitrator; December 23, 1953.)

Holiday pay awarded before employee starts work—According to a California arbiter, "employee" status begins when a man is hired rather than when he starts to work. Accordingly, George Hildebrand awards holiday pay to a member of AFL's Retail Clerks who was hired the Monday before the holiday but who first came to work the Wednesday after.

The holiday-pay clause in the contract contains no requirement relating to length of employee service. The sole qualification is that an employee, to be eligible, must report for work on his "regular working day next preceding or next following said holiday." Absence before or after the holiday doesn't stop holiday pay if it is "due to express permission from or action of the employer."

Management stood on the claim that the grievant didn't become an "employee" until he actually started work and was producing for the company. But the union assumed that the employment relationship began when the grievant was hired. Hildebrand goes along with this. Thus:

"It is true that he neither worked nor was scheduled to work on that day. However, he was hired in the sense of engaged for employment on that Monday, and so actually did come under the authority and control of the company at that time, like any other employee."

After the Monday hiring, the grievant was told to report on Wednesday. According to Hildebrand, Tuesday was skipped over just because it was a holiday. This means the grievant was deprived of work on Tuesday, just as longer service employees were. His regular schedule thereafter included Tuesday work, the umpire notes. So Hildebrand rules that he must be given pay for the holiday, even though his first day of work came the next day.

Industrial and commercial

(Continued from page 34)

proposes the recommendation that each A. G. A. member gas company should be urged to provide, within its system's capacity, limitations, and at rates commensurate with the cost of this service, such quantities of firm industrial gas as are necessary to sustain those operations that cannot tolerate supply interruptions or curtailments.

The Industrial Gas Study Subcommittee is preparing a list of the operations which cannot tolerate supply interruptions or curtailments. After review by the Managing Committee, this list of operations will be submitted as a report to the A. G. A. member companies.

COLLEGES ARE TO BE SURVEYED by the Promotional-Educational Committee, J. H. Mikula, chairman, to find how the gas industry, through this A. G. A. committee, can provide material, equipment and speakers for courses that include subjects having to do with industrial and commercial gas utilization.

The prime project of this new committee for this year will be to develop means of getting widest distribution of pertinent information, prepared by the Industrial and Commercial Gas Section, in our own industry as well as where it will do the most good in other industries and in the field of education.

The committee has been divided into an industrial group and a commercial group and members will survey colleges, universities and technical schools in their areas. Heads of engineering departments and hotel and restaurant management departments will be called on during the summer and early fall. An offer will be made to supply material from A. G. A. publications, manuals, information letters, or school lectures, and speakers covering various subjects. Inspection will be made of equipment used in engineering laboratories and demonstration kitchens so that, where necessary, plans may be made for upgrading and modernizing these installations.

Papich interview

(Continued from page 28)

power of man, but from their errors and mistakes, the wise and good learn wisdom for the future."

Mr. Nuhfer: Papich, standardization is not only a safety measure. I'm sure we both know that on an industry-wide basis, standardization is also an important economy measure.

Mr. Papich: Yes, indeed. An instance where standardization could be termed economical is in a manufacturing gas plant where the company went to a great deal of expense to install explosion-proof lights in the bottom floor of their generator plant. I am familiar with many of the possible reasons for this situation—insurance cost, state code, etc., but industry-wide acceptance and establishment of a standard for this particular type of operation might have made this expense unnecessary.

Mr. Nuhfer: What other situations impressed you as in need of correction or different procedures?

Mr. Papich: Some companies are reluctant to put down job breakdowns in black-and-white. I have run into such explanations as, "Hell! He has been doing the job for 40 years; he doesn't need to read it." Well, this may be, but from an accident prevention point of view, it is accepted and economically sound practice to have job breakdowns available for new men to read and for constant review by worker and foreman alike.

Which brings to mind an apparent misunderstanding of accident prevention's place in gas operations. I know this is old stuff, but I was surprised at its acceptance. Safety in all too many instances is a separate company endeavor. They get the job done in an "as safely as possible" attitude—instead of getting the job done safely. Safety should be part and parcel of every job breakdown. It should be so integral a part of a job that it is accepted as part of it and not as a supplement.

Mr. Nuhfer: How good actually were the safety programs being conducted by these companies you visited? In your opinion, were there sound accident prevention programs evident?

Mr. Papich: It was very readily apparent that in the gas industry as in any industry, the effectiveness of any safety program can be traced back directly to the president of the company. The way the people work on the job, the condition of their tools, their vehicles, and their facilities, are a direct index to the efficiency of management not only in safety but in all aspects of running a particular company.

However, in all too many instances a good accident frequency and severity rate is the end toward which the company strives instead of these rates being used as a means of measuring reduction in the cost of accidents.

The true measure of any accident prevention program is, "How many dollars are lost due to accidents?" In this instance let me emphasize that an accident not resulting in an injury or lost time or death can be as costly in many instances as those resulting in injury or death to personnel.

Mr. Nuhfer: No discussion of accident prevention and safety would be complete without bringing up the subject of housekeeping. What did you find?

Mr. Papich: I was particularly impressed with housekeeping in the transmission pipeline companies. Their compressor stations would do credit to a modern hospital as far as cleanliness is concerned. The housekeeping in the gas companies, generally speaking, is good.

Housekeeping in the industry seems to be restricted to physical plants or stations. Of even more importance is personal housekeeping found lacking in distribution trucks, maintenance trucks, mechanic work areas, road gangs and on the part of gas service men in houses where appliances were being replaced or adjusted. It is just as important to have a place for everything and everything in its place in these operations as it is in plants, compressor stations, warehouses, etc.

A.G.A. nominates for 1954-55

(Continued from page 6)

GENERAL MANAGEMENT SECTION

For chairman:

LARRY SHOMAKER, vice-president, Northern Natural Gas Co., Omaha, Nebraska.

For vice-chairman:

JOHN H. CARSON, vice-president, The East Ohio Gas Co., Cleveland, Ohio.

INDUSTRIAL AND COMMERCIAL GAS SECTION

For chairman:

RAY TROWBRIDGE, commercial and industrial sales manager, Seattle Gas Co., Seattle, Washington.

For vice-chairman:

LAWRENCE E. BIEMILLER, manager, industrial fuel department, Consolidated Gas Electric Light and Power Company of Baltimore, Baltimore, Maryland.

OPERATING SECTION

For chairman:

WALTER H. DAVIDSON, superintendent of operations, Transcontinental Gas Pipe Line Corp., Houston, Texas.

For vice-chairman:

J. H. COLLINS, SR., general superintendent, gas department, New Orleans Public Service Inc., New Orleans, Louisiana.

For second vice-chairman:

FREDERIC A. HOUGH, vice-president, Southern Counties Gas Co., Los Angeles, California.

RESIDENTIAL GAS SECTION

For chairman:

WALTER H. KURDELSKI, sales manager, Michigan Consolidated Gas Co., Grand Rapids, Michigan.

For vice-chairman:

B. H. WITTMANN, assistant to vice-president in charge of sales, The Peoples Gas Light and Coke Co., Chicago, Illinois.

New A.G.A. members

Gas companies

Algonquin Gas Transmission Co., Boston, Mass. (Frank P. Saponaro, Vice-President)
Piedmont Natural Gas Co., Inc., Charlotte, N. C. (Buell G. Duncan, President)
Winnipeg & Central Gas Co., Winnipeg, Man., Canada (W. F. Davey, President & General Manager)

Manufacturer companies

All-American Metal Products Co., Philadelphia, Pa. (William H. Bunten, President)
American Air Filter Co., Inc., Louisville, Ky. (Irving W. Clark, Manager Heating & Ventilating Department)
Blue Bonnet Manufacturing Co., McGregor, Tex. (Henry Honer, President)
Bonair Products, Inc., Philadelphia, Pa. (Frank A. McKee, President)
Chandler Company, Cedar Rapids, Iowa (C. W. Chandler, Secretary-Treasurer)
Firewel Co., Inc., The, Buffalo, N. Y. (Donald S. Nesbitt, President)
Gibraltar Corp. of America, Inc., Brooklyn, N. Y. (Leo F. Flamm, President)
Harbert Corp., Sasakwa, Okla. (R. E. Harbert, President)
Harvey Machine Co., Inc., Torrance, Calif. (Homer M. Harvey, Vice-President)
S. D. Hicks and Son Co., Hyde Park, Mass. (Thomas Wheeler, President)
Jawin Manufacturing Co., Inc., Teterboro, N. J. (Gilbert Winkler, President)
Major Controls Co., Los Nietos, Calif. (Walter Lee, General Partner)
Miami Products, Inc., Miami, Okla. (L. K. Newell, President)
Pittsburg Water Heater Co., Ltd., Grimsby, Ont., Canada (William Sterling, Vice-President)
Scott-Newcomb, Inc., Cleveland, Ohio (W. Hayden Thompson, President)
Taymouth Industries Ltd., Toronto, Ont., Canada (J. L. Franks, Manager)
Troop Water Heater Co., Pittsburgh, Pa. (H. F. Zempel, Assistant Manager)
Welsbach Corp., The, Philadelphia, Pa. (Everett N. Garrett, Plant Superintendent)

Individual members

John S. Adams, Texas Eastern Transmission Corp., Shreveport, La.
Edward C. Aldridge, Texas Eastern Transmission Corp., Shreveport, La.
Carl A. Altenbern, Natural Gas Pipeline Co. of America, Chicago, Ill.
Fernando L. Anduze, Puerto Rico Water Resources Authority, San Juan, P. R.
Rocco J. Antonelli, Algonquin Gas Transmission Co., Boston, Mass.
Marion L. Arnold, Richfield Oil Corp., Los Angeles, Calif.
Vars W. Bates, Southern Union Gas Co., Farmington, N. M.
Thomas H. Beals, Natural Gas Pipeline Co. of America, Chicago, Ill.
Charles E. Beatty, Public Service Co. of Colorado, Grand Junction, Colo.
Cecil Beebe, Pacific Gas & Electric Co., Livermore, Calif.
Keith Bentz, Texas Illinois Natural Gas Pipeline Co., Chicago, Ill.
Martin L. Bird, Lone Star Gas Co., Dallas, Tex.
Leo R. Bohan, Texas Eastern Transmission Corp., Shreveport, La.
William C. Boman, Consumers Power Co., Bay City, Mich.
Gordon C. Bowen, Algonquin Gas Transmission Co., Boston, Mass.
Ernest E. Boyd, Pacific Gas & Electric Co., San Jose, Calif.
Don B. Boydston, Lake Shore Pipe Line Co., Ashtabula, Ohio
John A. Brady, North Shore Gas Co., Waukegan, Ill.
Milton D. Brandwine, The Brandwine Equipment Co., St. Louis, Mo.
Weldon T. Brinton, Southern Union Gas Co., Flagstaff, Ariz.
William C. Britt, Texas Eastern Transmission Corp., Baytown, Texas
Paul E. Brookover, Public Service Co. of Colo., Denver, Colo.
Earl J. Browne, Public Service Co. of Colo., Denver, Colo.
Virgil B. Bullen, Cincinnati Milling & Grinding Machines, Inc., Cincinnati, Ohio
Harold J. Burns, Washington Gas Light Co., Washington, D. C.
Harry J. Burns, The Peoples Gas Light & Coke Co., Chicago, Ill.
George D. Buzard, The Peoples Gas Light & Coke Co., Chicago, Ill.
Harvey S. Cain, Natural Gas Pipeline Co. of America, Chicago, Ill.
James M. Canty, The Peoples Gas Light & Coke Co., Chicago, Ill.
Carl H. Capps, Moran Utilities Co., Conroe, Texas
W. G. Cartter, Corona del Mar, Calif.
Raymond J. Carty, The Peoples Gas Light & Coke Co., Chicago, Ill.
John F. Childs, Irving Trust Co., New York, N. Y.
Ralph W. Clark, Consumers Power Co., East Detroit, Mich.
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CONVENTION CALENDAR

1954

JULY

6-9 •American Home Economics Association, San Francisco, Calif. (A. G. A. will exhibit)

SEPTEMBER

7-10 •Pacific Coast Gas Association, Vancouver, British Columbia
8-10 •Mid-West Gas Association Gas School and Conference, Iowa State College, Ames, Iowa
10 •New Jersey Gas Association, Hotel Monmouth, Spring Lake, N. J.
13-14 •Independent Natural Gas Association of America, Annual Membership Meeting, Roosevelt Hotel, New Orleans, La.
15-17 •A. G. A. Sixth Annual Accident Prevention Conference, Bond Hotel, Hartford, Conn.
28-29 •Texas Mid-Continent Oil and Gas Association, Baker Hotel, Dallas, Texas

OCTOBER

11-13 •American Gas Association Annual Convention, Atlantic City
18-22 •National Safety Council, Chicago, Ill.
25-29 •American Dietetic Association, Philadelphia, Pa.

NOVEMBER

1-5 •National Metal Exposition, Chicago, Ill. (A. G. A. will exhibit)
4 •Midwest Industrial Gas Council, La Salle Hotel, Chicago, Ill.
8-11 •American Petroleum Institute, Chicago, Ill.
8-12 •National Hotel Exposition, Kingsbridge Armory, New York, N. Y.
15-17 •American Standards Association, Hotel Roosevelt, New York, N. Y.
16-20 •American School Food Service Association, Miami Beach, Fla. (A. G. A. will exhibit)
17-19 •Southeastern Gas Association, Sir Walter Hotel, Raleigh, N. C.

1955

JANUARY

13-20 •National Housewares & Home Appliance Exhibits, Chicago, Ill.
24-25 •Industrial Furnace Manufacturers Association, Detroit, Mich.
24-26 •A. G. A. Home Service Workshop, Drake Hotel, Chicago, Ill.

MARCH

7-9 •Mid-West Gas Association, St. Paul, Minn.
24-25 •A. G. A. Gas Supply, Transmission and Storage Conference, Wm. Penn Hotel, Pittsburgh, Pa.

Personnel service

SERVICES OFFERED

Development Engineer—B.S. in chemical engineering. Four years' development experience with large gas range manufacturer. Desire position with opportunity in gas appliance or related industry. Midwest preferred. (29) **1777.**

Sales Manager—Top flight, finest recommendations. Twenty years' broad experience with gas utility, outstanding in industry for finest results. Thorough knowledge of direct or promotional selling and all related activities. Has handled advertising, personnel and other administrative duties. Available June 1, 1954 for permanent position. (47) **1778.**

Manufacturer's Sales Representative—Four years with leading manufacturer of domestic and commercial water heaters, furnaces and boilers. Thoroughly acquainted with utilities and wholesalers. Desires position as manufacturer's representative. **1779.**

Executive Position—Past three years works manager of by-product coke, gas plant and blast furnace employing approximately 1,300 men, including locomotive and train service, extensive material handling equipment, repair and maintenance shops, laboratory, engineering department, etc. This involved coordination of various operating and maintenance divisions, union negotiations, and assuming of over-all responsibility. **1780**

Accountant—Financial Man—Twenty years' experience in public utility company and holding company accounting and financial matters, operating and cash budgets, regulatory commission practices. Now employed in supervisory capacity. C.P.A. degree. Accustomed to assuming responsibility for completing work accurately and on schedule. **1781.**

Operating Engineer—Extensive coke plant experience, ovens, by-product, some light oil, as operating engineer for well known engineering and construction firm. Prefer eastern seaboard and position with advancement potential and security. **1782.**

Public Relations Director—Broad training in basic principles of public relations. Executive and administrative training, personnel training and practice, general knowledge of labor relations practice. Extensive experience in government relations. Represented business before Congressional committees for three years. Further information on request. **1783.**

Sales Executive—Former gas company sales executive with more than 30 years' experience in all phases of utility operation with company having more than 100,000 meters, is seeking connection with gas utility company or gas appliance manufacturer along Eastern seaboard. Proficient in advertising and display, plumber and dealer relations, customer relations, etc. Further information upon request. **1784.**

POSITIONS OPEN

Salesman—Top-notch man to assume full charge of sales department. Possibilities as officer and director of gas furnace manufacturing company in middle west. Must be well acquainted with private brand and distributor selling. **0733.**

Administrative Engineer—Graduate mechanical, civil or chemical engineer. Must have had 7-15 years' experience in a gas utility field and must be capable of directing engineering activities, as well as evaluating operating methods and results. Salary commensurate with ability and experience. **0734.**

Safety Engineer (Assistant)—Large eastern gas utility has vacancy for an engineer to assist its safety director. Some safety experience desirable. Reply giving age, education and work experience. **0737.**

Industrial Gas Engineer—New natural gas transmission company operating in Southern New England States desires services of experienced industrial engineer for technical gas studies concerning promotion of use of natural gas in industrial markets. Excellent opportunity for man experienced in gas industry and sales engineering. Immediate opening. **0738.**

Rate Engineer—Nationally known utility management consultation firm has excellent opportunity for top-flight rate engineer with experience as an expert witness before regulatory commissions. Nature of duties requires travel. Our staff is aware of this advertisement. Submit resume of personal data, educational background and business experience. **0739.**

Manufacturers Representative—For distribution of line of gas-fired incinerators by one of the oldest manufacturers in the county. Planning changes in sales representation and have some choice territories open for live men having kindred lines. **0740.**

Salesmen—For manufacturers of gas boilers, furnaces, conversion burners and floor furnaces, territory available for additional salesmen on commissioned basis. Prefer men who now are traveling territory with allied, non-competitive lines. Applications strictly confidential. State qualifications and territory preferred. **0741.**

Home Economist—Natural gas utility in the Southwest. State qualifications and experience, enclosing picture in letter. One position is for supervisor who can direct work in one district. Must be able to give cooking schools, demonstrations, home calls. Position for home economist may be without experience. Degrees required in both. **0742.**

Gas Manager—New England manufactured gas property. Must be experienced in sales and service and possess background in administration of gas property. State starting salary required. **0743.**

NY-NJ Sales

(Continued from page 39)

cited instances of action taken to educate the public concerning the specific advantages of gas appliances.

Under the title, "Doin' What Comes Naturally," Hugh L. Wathen, director of sales and public relations, South Jersey Gas Co., presented a vigorous plea for gas refrigerator merchandising support. Pointing out that gas refrigerators dominated the market in Chicago from 1941 to 1951, he said this proves that direct utility merchandising can regain this profitable business for the industry.

In his own small company, Mr. Wathen noted, revenues from gas refrigerators on an incremental basis amounted to ten percent of the company's business last year. Total sales of 642 refrigerators in 1953 won his company a first place award in its division in the national sales contest.

There is a revolution in the laundry that spells revenue for the gas industry, Frank A. McFerran, general sales manager, Ruud Manufacturing Co., Pittsburgh, told the conference. The automatic clothes washing machine is the "Paul Revere" of this revolution, he declared, noting that only 360,000 automatic units were in use in 1946, while in 1953 there were more than seven and one-half million users. He predicted nearly 20 million automatic washers would be in use by 1960.

Only fast recovery automatic gas water heaters are able to provide sufficient high temperature water for maximum effectiveness of automatic washing machines, Mr. McFerran declared. Aided by C. E. Bartlett, he gave a unique demonstration of how much more dirt is removed when clothes are washed in 160° F. water as compared to 115° F. water. A Geiger counter and radio-active towels were used to dramatize this point.

As part of a dual presentation on the modern home laundry, Mr. McFerran introduced Miss Dorothy Shank, associate editor of *What's New in Home Economics,* who spoke briefly on five avenues of reaching the housewife with the gas water heating story: through home economics teachers, federal extension services, home equipment editors and writers, business home economists and the gas companies' home service departments.

W. L. Hayes, sales manager, Montana-Dakota Utilities Co., Minneapolis, brought the meeting to a close with an inspiring plea for the gas companies to get back into good old-fashioned door-to-door selling. During the past ten years, he declared, with few exceptions the dealer has had the merchandising to himself. The result, he continued, is that the gas industry has lost ground because the sales of gas appliances are of secondary importance to them. At least 90 percent of the dealers also sell electric appliances, he pointed out, and cannot be expected to push gas products. Mr. Hayes added, however, that he favors dealer cooperation but not to the exclusion of utility merchandising.

The delegates were given a farewell sendoff with a friendship refreshment hour sponsored by the gas appliance manufacturers. This event also was held on the opening day.

● A theorist is a person who doesn't work but who has a lot of ideas that he thinks will.

● Anytime you want to wipe out hard luck, just use hard work for an eraser.

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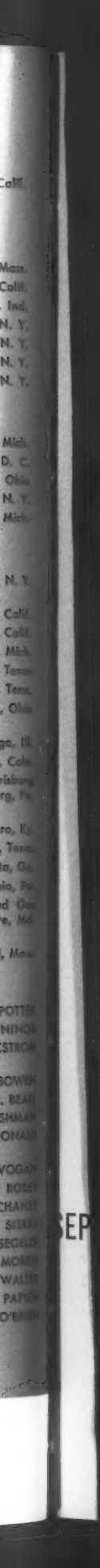
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